Texas Task Force on Infectious Disease Preparedness and Response

Report & Recommendations

December 1, 2014

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For complete biographies of Task Force Members, refer to Appendix D.

Preface

**In today's globally connected society,
an infectious disease epidemic *anywhere* can soon become
an emergency *everywhere*.**

With the first diagnosis of an Ebola patient within the United States, in Dallas, on September 30, 2014, the State of Texas faced a unique public health emergency that demanded extraordinary efforts from public health experts, health care workers, emergency responders, local, county, state, and federal leaders, and at times, from the public at large.

Fortunately, Texas has in place a sophisticated emergency management system, guided by the State of Texas Emergency Management Plan, which has been the basis for effective responses to natural and man-made disasters, from hurricanes and wildfires to the recent fertilizer plant explosion in West. The response to major disasters routinely involves collaboration and coordination among state and local government agencies, community support organizations, and diverse responders functioning in specific areas, including emergency management, public health protection, search and rescue, law enforcement, transportation oversight, environmental controls and overall communications and logistical support.

The Ebola emergency demonstrated that preparedness requires clear, decisive, and prospective planning to achieve an effective short term emergency response as well as long term sustainability and resiliency against future threats. During an infectious disease outbreak, the first 24-48 hours may be critical for containing the disease within the initial cohort and avoiding widespread contagion. As such, the state must be fully prepared and practiced, with appropriate procedures and technologies in place, before the onset of an infectious disease emergency. This includes preparation even for the worst-case scenarios, whether involving Ebola, avian influenza, or another disease yet to be discovered. Preparedness is not a single event, but a process that involves continual education and training and ongoing coordination and communication.

In the Office of the Governor and throughout state government, Texas has a heightened awareness and understanding of the importance of emergency response, due in part to the state's experience with multiple, major disasters in recent years. As a result, Governor Rick Perry acted swiftly to create the Texas Task Force on Infectious Disease Preparedness and Response. Immediately upon being assembled, the Task Force began providing "real time" assessment and support for front-line decision-makers managing the emergency, assuring that the teams had access to the best scientific evidence and international experts available. Throughout the emergency, the Task Force engaged with various constituencies, including those directly affected by the disease, and on a plethora of issues, from the triage protocols employed to screen patients, to the future organization of the incident response.

It is no accident that Texas has some of the world's most highly experienced and internationally acclaimed experts in virology epidemiology, tropical medicine, vaccine development, veterinary medicine, and other disciplines related to biodefense and infectious disease in general and specifically to Ebola. Many of these experts are specifically engaged in research to develop diagnostics and treatments for Ebola viral disease. The presence of such expertise in Texas is a direct result of public and private investment in capabilities created expressly for the purpose of infectious disease preparedness and response. Among the most important of these are the Galveston National Laboratory at the University of Texas Medical Branch and the new national biodefense Center for Innovation in Advanced Development and Manufacturing, at the Texas A&M University Health Science Center.

As a result of the tremendous collection of experts available within the state on Ebola, infectious disease and biodefense, the Task Force was uniquely positioned to address the breadth of issues which would arise during the emergency. At several critical junctures during the emergency, the Task Force identified emerging issues and provided recommendations which then were implemented by the Governor or the Department of State Health Services.

In addition, state-supported laboratory facilities at the Department of State Health Services made it possible for Texas to be one of only 16 states approved by the Centers for Disease Control to conduct Ebola diagnostic laboratory testing, and this capability was critical for the timely response to Ebola within Dallas. Further, Texas has invested in health care facilities and academic medical centers that have in turn developed special expertise and resources to care for patients who are critically ill with infectious diseases. Hundreds of public health and emergency professionals, doctors, nurses, and other health care workers responded to the Texas Ebola emergency rapidly and heroically and with the dedication and commitment Texans expect and deserve.

Yet, as this emergency has illustrated, the challenges of a potentially catastrophic infectious disease outbreak extend far beyond routine public health and emergency care and demand an entirely different level of training, coordination, and functional integration than typically exercised by the state's emergency response system. In addition, in many cases our scientific knowledge of novel infectious diseases like Ebola is imperfect and evolving. Such diseases may not be a focus of routine emergency or hospital training; furthermore, there may be little data on the expression and transmission of diseases such as Ebola in the developed world.

Nonetheless, decisions made during the emergency were based on the best scientific evidence available and with respect for individual liberties but with the understanding that protection of the public against a widespread epidemic was the overriding priority. During the Ebola emergency, assumptions involving transmission and personal protection were tested, and in some cases, disproved. Treatment decisions on conventional supportive care procedures as well as highly experimental therapies were made by each health care team in an attempt to save patients suffering from Ebola. Protocols that had never been utilized in Texas, such as decontamination and disposal of household belongings and medical waste from Ebola patients, were implemented based on the best available information, always erring on the side of public health protection.

Public debate and scrutiny of the response to Ebola, not just in Texas but in other states, underscores the importance of the advisory role played by the Texas Task Force during and following the emergency. By thoroughly and objectively assessing the Ebola emergency and the response to it, the Task Force has identified several opportunities, detailed in this report, to improve and strengthen the State's preparedness and response to any future infectious disease threats or outbreaks, including several recommendations which were issued in the midst of the crisis, on October 17 and October 31, 2014 and then rapidly reviewed, approved and implemented by Governor Perry and relevant state agencies.

The Task Force remains driven by a commitment to serve as a reliable and transparent resource for the Office of the Governor, the Texas Legislature, and the citizens of the state.

Ebola in Texas Timeline

September 2014

September 15
Thomas Eric Duncan, 42, of Monrovia, Liberia, takes a pregnant friend to a Monrovia hospital. He carries her back to her apartment after hospitals turn her away. She later dies of Ebola.

September 19
Duncan begins a trip to visit his fiancé and her family in Dallas. He flies by commercial airliner to Brussels, Belgium, and changes planes to take another commercial flight to Dulles Airport near Washington, D.C. On his exit form from Liberia, he indicated he had no contact with anyone with Ebola.

September 20
Duncan takes a commercial flight to Dallas. He appears to have been asymptomatic for Ebola during all flights.

September 24
- Duncan begins to show symptoms of what is later confirmed to be Ebola, according to his associates in Dallas.
- The Community Preparedness Section (CPS) and Emerging, Acute and Infectious Disease Branch (EAIDB) of the Texas Department of State Health Services (DSHS) begin coordination of the DSHS Ebola Response Plan.

September 25
Duncan proceeds to Texas Health Presbyterian Hospital in Dallas with a fever, dizziness, nausea and abdominal pain. He is examined, prescribed antibiotics and discharged.

September 28
Duncan – having fever, abdominal pain, diarrhea and vomiting -- is transported by Dallas Fire and Rescue ambulance from Ivy Apartments to Presbyterian Hospital. He is admitted in critical condition and placed in isolation in the intensive care unit. He is treated by nurses and staff wearing personal protective equipment (PPE), including shoe covers and face shields, according to CDC guidelines.

September 30
- A blood specimen sent to the Texas State Public Health Laboratory in Austin and the Centers for Disease Control and Prevention (CDC) Viral Special Pathogens Branch Laboratory confirm that Duncan has the Ebola virus. He is the first patient diagnosed in the U.S.
- The Texas Department of State Health Services (DSHS) requests assistance from CDC to investigate the case, assess the risk of potential spread of the disease, and to provide recommendations on appropriate infection control methods. The State Medical Operations Center is activated at a virtual level, and the CDC Epi-Aid Team arrives in Dallas.

October 2014

October 1

- Gov. Rick Perry leads a meeting of the Ebola response team at Presbyterian. Participants include local, state and federal officials, as well as Dr. Brett Giroir, future director of the Texas Task Force on Infectious Disease Preparedness and Response. Immediately afterwards, Gov. Perry – joined by several meeting participants -- holds a press conference informing the public of the situation.
- Dallas Fire and Rescue workers who transported Duncan test negative for Ebola, and are sent home for 21 days of monitoring and isolation. Health officials identify and begin monitoring about 15 people who had close contact with Duncan. The DSHS Commissioner issues a Control Order to Duncan's fiancé and three of her family members, legally requiring them to stay at home and not have any visitors without approval from health officials until at least October 19.
- Duncan's condition is upgraded to serious.
- The CPS and EAIDB hold a coordination meeting and discuss incident response. Dr. David Lakey, DSHS Commissioner, and David Gruber, Asst. Commissioner of Regional and Local Health Services, arrive in Dallas to assist in the response.

October 2

- Potentially, 80 people are determined to have had contact with Duncan and/or associates, including five school children; all are monitored by state health officials. The surface area of Duncan's fiancé's apartment is decontaminated.
- The City of Dallas Emergency Operations Center (EOC), Dallas County EOC and Dallas County Health and Human Services (DCHHS) Public Health Operations Center (P-HOC) and local health departments are activated. An ASPR Liaison Office is deployed to the Dallas EOC to assist in the response.
- The Community Preparedness Section distributes, via the Hospital Preparedness Program, a survey to all state hospitals to assess their preparedness to care for an Ebola patient.

October 3

- The number of people being monitored closely is reduced to about 50, with 10 who had contact with Duncan considered at high risk for contracting Ebola.
- The State Medical Operations Center (SMOC) initiates full activation, and deploys a Rapid Assessment Team member as a Liaison Officer to the Dallas County EOC.

October 4

- Duncan's condition worsens to critical. He receives an experimental Ebola medication: brincidofovir. Hospital waste is removed and disposed.
- County officials transfer Duncan's associates to another location for the duration of the Control Order. A second Control Order is issued for another close contact.

October 6

- **Gov. Perry announces the formation of the Texas Task Force on Infectious Disease Preparedness and Response. The Task Force holds its first meeting.**
- The SMOC and SOC hold a conference call with state EMS providers to share information and answer questions about the situation. The SMOC deploys a Command Assistance Team member to assist the health and Medical Branch of the Dallas EOC. Additional calls are held with health and medical providers throughout the crisis.

October 7

The Health and Human Services Committee holds a legislative hearing on the situation.

October 2014

October 8

Duncan is pronounced dead at 7:51 a.m. His remains are cremated. It is determined that he had come in contact with 76 doctors, nurses and staff during the course of his treatment.

October 9

- A Dallas County sheriff's deputy reports Ebola-like symptoms after serving a quarantine order on the apartment where Duncan had been staying. He tests negative for the virus.
- A public education campaign is established by Dallas EOC.

October 10

- A nurse – Amber Vinson, age 29 – who had treated Duncan takes a commercial flight from Dallas to Cleveland, Ohio, and visits family in nearby Akron. Another nurse who had treated Duncan, Nina Pham, 24, has a low-grade fever, reports the information to officials, drives herself to Texas Health Presbyterian Hospital and is isolated there.
- The SMOC changes to "virtual activation" status.

October 12

- A Dallas lab supervisor who handled Duncan's clinical specimens at Presbyterian hospital boards a cruise ship in Galveston, and leaves the country on it. In Dallas, Pham tests positive for the Ebola virus. Two additional samples from potential cases are sent to the DSHS Laboratory for testing. Both test negative.
- The SMOC is reactivated. Disaster District Committee (DDC) 4 – Garland is activated.
- Arrangements are made to care for Pham's dog while she is isolated. Pham's apartment and vehicle are placed under protective order, and areas outside Pham's apartment receive a HazMat clean-up.
- Dallas ISD schools and families are informed that the five students under observation remain Ebola free and that there is no expected risk to a school near Pham's apartment.

October 13

- Vinson flies from Cleveland to Dallas on a commercial airline. She has no symptoms, but her temperature was 99.5 degrees that morning, according to health officials. She notifies CDC before boarding, and was allowed to fly.
- CDC sends another team of epidemiologists to Dallas. The process for sending a blood sample to the DSHS lab for a pre-identified Ebola contact is updated.

October 14

Vinson, who has a fever, drives to Texas Health Presbyterian Hospital. Another individual tests negative for the virus.

October 15

After midnight, Vinson is diagnosed with the Ebola virus, isolated in the hospital and transported by EMS to the airport. She is flown -- via a plane contracted by the U.S. State Department -- to Atlanta for treatment in the bio-containment unit of Emory University Hospital.

October 16

- Pham is flown via private aircraft from Dallas Love Field to the National Institutes of Health hospital in Bethesda, Maryland, for treatment in its bio-containment unit.
- CDC changes temperature protocols from monitoring from 101.5 to 100.4.

October 2014

October 17

- The lab worker who handled Duncan's clinical specimens is voluntarily quarantined on the cruise ship amid concerns the individual may have been exposed to the Ebola virus. Officials in Galveston – in coordination with HHSC, Coast Guard and other state and federal agencies -- prepare for possible influx of patients seeking treatment when the 5,000-passenger ship returns to port.
- The DSHS commissioner issues a "Movement of Persons with Possible Exposure to Ebola" letter to the 76 workers who had treated or come in contact with Duncan.
- **The Texas Task Force on Infectious Disease Preparedness and Response issues its initial recommendations to Gov. Perry (see Issues 1, 2, 3 and 4 in this report for details).**

October 18

A Coast Guard helicopter transports a tropical disease doctor from the University of Texas Medical Branch at Galveston to the cruise ship to take a blood sample from the lab worker. The sample is transported to Austin, where it tests negative for Ebola.

October 19

- An individual who had traveled from Liberia to Texas is transferred to St. David's Hospital in Austin, and tests negative for the Ebola virus. The sample is sent to CDC for confirmatory testing.
- The cruise ship docks in Galveston and all passengers disembark without incident. The lab worker and spouse are escorted off the ship before the other passengers.

October 20

- The CDC updates its Ebola guidelines with respect to the training, supervision and use of PPE.
- **The Texas Task Force on Infectious Disease Preparedness and Response transmits recommendations to DSHS concerning the initial triage, assessment and isolation of patients with suspected risk of Ebola.**

October 22

After a week of treatment, Vinson tests negative for the Ebola virus, and is moved from isolation at Emory University Hospital; she is released on October 28.

October 23

The Texas Task Force on Infectious Disease Preparedness and Response holds a public hearing at the State Capitol. It is focused on preparedness for initial identification and isolation of patients and included invited testimony from witnesses representing professions and institutions involved in disease identification

October 24

After eight days of treatment, Pham tests negative for the Ebola virus at the National Institutes of Health hospital. She is released later than day.

October 29

The Texas Task Force on Infectious Disease Preparedness and Response meets in Austin.

October 31

The Texas Task Force on Infectious Disease Preparedness and Response issues to Gov. Perry additional recommendations for the monitoring of health care workers and others returning to Texas from Ebola-endemic areas in West Africa (see Issue 5 in this report for details).

November 2014

November 3

An individual who had been seated on an airplane in close contact with Vinson was hospitalized at Presbyterian with suspected Ebola symptoms, but tested negative for the virus.

November 4

Governor Perry directs Texas Department of State Health Services Commissioner Dr. David Lakey to begin implementing the October 31 recommendations from the Texas Task Force on Infectious Disease Preparedness and Response.

November 7

- Monitoring ends for individuals believed to have had some risk of contacting the Ebola virus.
- **The Texas Department of State Health Services reports that a total of 177 people were monitored throughout the crisis, including health care workers, household members and others who had contact with Duncan, Pham or Vinson or with medical specimens or waste. None contracted the Ebola virus.**
- An additional 160 people -- passengers on one of the flights taken by one of the nurses who contracted Ebola -- were also monitored. None contracted the Ebola virus.

Executive Order

RP 79 - Relating to the Creation of the Texas Task Force on Infectious Disease Preparedness and Response

WHEREAS, infectious diseases are responsible for more deaths worldwide than any other single cause; and

WHEREAS, the State of Texas has a responsibility to safeguard and protect the health and well-being of its citizens from the spread of infectious diseases; and

WHEREAS, on September 30, 2014, the first case of Ebola diagnosed in the United States occurred in Dallas, Texas; and

WHEREAS, addressing infectious diseases requires the coordination and cooperation of multiple governmental entities at the local, state and federal level; and

WHEREAS, public health and medical preparedness and response guidelines are crucial to protect the safety and welfare of our citizens; and

WHEREAS, Texas has nationally recognized infectious disease experts and other highly trained professionals across the state with the experience needed to minimize any potential risk to the people of Texas;

NOW, **THEREFORE**, I, Rick Perry, Governor of the State of Texas, by virtue of the power and authority vested in me by the Constitution and laws of the State of Texas, do hereby order the following:

1. Creation and Duties. The Texas Task Force on Infectious Disease Preparedness and Response (the "Task Force") is hereby created to:

    - Provide expert, evidence-based assessments, protocols and recommendations related to the current Ebola response and a strategic emergency management plan for the incident command team and their partners at the state and local level of government.

    - Develop a comprehensive plan to ensure Texas is prepared for the potential of widespread outbreak of infectious diseases, such as the Ebola virus and other emerging infectious diseases, and can provide rapid response that effectively protects the safety and well-being of Texans.

    - Serve as a reliable and transparent source of information and education for Texas leadership and citizens.

The Task Force will establish this plan by:

- Using the significant expertise of medical professionals in Texas and elsewhere; Collaborating with local government officials and local health officials; Utilizing, where possible, the Texas Emergency Preparedness Plan and structure;

- Identifying the various responses necessary in the event of an epidemic of infectious disease;

- Establishing a command and control structure that will ensure effective preparations and response that may be included in Chapter 418 of the Government Code or related statutes and that also ensure the authority of a Governor to take emergency action as needed; and

- Coordinating with appropriate entities to ensure public awareness and education regarding any pandemic threat.

2. Composition and Terms. The Task Force shall consist of the following members:

- Dr. Brett Giroir, Executive Vice President and CEO, Texas A&M Health Science Center, shall serve as the Director of the Texas Task Force on Infectious Disease Preparedness and Response.

Other members include:

- Dr. Gerald Parker, Vice President, Public Health Preparedness and Response, Texas A&M Health Science Center. Dr. Parker shall serve as the Deputy Director on the Task Force.

- Dr. Tammy Beckham, Director, Veterinary Medical Diagnostic Laboratory and the Institute for Infectious Animal Diseases, Texas A&M University.

- Dr. Peter Hotez, Founding Dean, National School of Tropical Medicine, Baylor College of Medicine; Professor, Departments of Pediatrics and Molecular Virology & Microbiology; President, Sabin Vaccine Institute.

- Richard Hyde, Executive Director, Texas Commission on Environmental Quality.

- Tim Irvine, Executive Director, Texas Department of Housing and Community Affairs.

- Dr. Kyle Janek, Executive Commissioner, Texas Health and Human Services Commission.

- W. Nim Kidd, Chief, Texas Division of Emergency Management. **[title corrected from original EO]**

- Dr. Thomas Ksiazek, Virologist and expert in the field of epidemiology/ecology and laboratory diagnosis of hemorrhagic fevers and arthropod-borne viral diseases, The University of Texas Medical Branch at Galveston.

- Dr. David Lakey, Commissioner, Texas Department of State Health Services.

- Dr. James LeDuc, Ph.D., Director, Galveston National Laboratory; professor of Microbiology and Immunology, University of Texas Medical Branch at Galveston **[title corrected from original EO]**

- Dr. Scott Lillibridge, Professor of Epidemiology and Assistant Dean, Texas A&M Health Science Center School of Public Health.

- Colonel Steve McCraw, Executive Director, Texas Department of Public Safety.=

- Major General John Nichols, Adjutant General, Texas National Guard

- Dr. Victoria Sutton, Associate Dean for Research and Faculty Development; Director, Center for Biodefense, Law and Public Policy, Texas Tech University School of Law.

- Lt. General Joseph Weber, Executive Director, Texas Department of Transportation.

- Michael Williams, Commissioner, Texas Education Agency.

The Governor may fill any vacancy that may occur and may appoint other members as needed. All appointees serve at the pleasure of the Governor. Any state or local employees appointed to serve on the Task Force shall do so in addition to the regular duties of their respective office or position.

3. Report. The Task Force shall make written reports on its findings and recommendations, including legislative recommendations, to the Governor and the Legislature. The first report is due by December 1, 2014, which should include preliminary recommendations that require legislative action. A second report is due by February 1, 2015, and should contain, in part, any additional recommendations for legislative action during the 2015 legislative session. The Task Force may issue other regular reports as it deems necessary.

4. Meetings. The Task Force shall meet at times and locations as determined by the Director. The Task Force may meet telephonically. The Task Force may hold public hearings to gather information; when conducting public hearings the Task Force shall meet in various parts of Texas to encourage local input. The Task Force also may meet in executive session to discuss matters that are deemed confidential by state or federal statutes or to ensure public security or law enforcement needs.

5. Administrative Support. The state agencies involved shall provide administrative support for the Task Force.

6. Other Provisions. The Task Force shall adhere to guidelines and procedures prescribed by the Office of the Governor. All Task Force members shall serve without compensation or reimbursement for travel expenses.

7. Effective Date. This order shall take effect immediately.

This executive order supersedes all previous orders inconsistent with its terms and shall remain in effect and in full force until modified, amended, rescinded or superseded by me or by a succeeding Governor.

Given under my hand this the 6th day of October, 2014.

RICK PERRY
Governor

ISSUES AND RECOMMENDATIONS

Issue 1

State Designated Hospitals for the Treatment and Care of Diagnosed Ebola Patients

(Issued October 17, 2014 with Updates and Additional Recommendations Indicated in Text)

Modified: As Texas hospitals continue to advance in capabilities for identifying, isolating and treating Ebola patients, it is critical for the state to designate specific hospitals as Ebola Treatment Facilities that are dedicated to receiving and treating *laboratory diagnosed* Ebola cases from surrounding hospitals or health facilities within the state.

As a state designated Ebola Treatment Facility, the hospital would be equipped to provide highly specialized infectious disease care, including but not limited to:

- Infection control and protection of health care workers
- Decontamination
- Waste management
- Complex early stage experimental therapies, and
- A myriad of coordination and communication capabilities with local, state and federal partners.

While this recommendation is in immediate response to the current Ebola threat, these same principles and recommendations would apply broadly to any number of high consequence infectious diseases.

Recommendations (Issued October 17, 2014):

1. DSHS should coordinate the establishment of specific hospitals that are designated as Ebola Treatment Facilities.

    a) There initially should be two hospitals in Texas that can care for a pre-defined number of Ebola patients, with the highest standards of training and clinical care, including related issues such as infection control. A protocol should be established to determine if additional (more than two) Ebola Treatment Facilities are needed.

    b) **Modified:** It is imperative that every health care facility, as well as a broad spectrum of health care providers, should be able to identify a patient at risk of Ebola, institute appropriate isolation, and call public health, *according to the*

published DSHS triage guidelines, for assistance. State agencies should immediately examine if existing statutes or rules need to be updated in this regard.

(i) Once the diagnosis is made, and in-hospital care is required, confirmed patients should be transferred only to a state- designated Ebola Treatment Facility by a specialized transport team trained in infectious disease isolation and control.

(ii) **Modified:** Transport of diagnosed Ebola patients should be accomplished via a designated transport service with a highly trained transport team.

c) DSHS should work with stakeholder groups to establish a secondary layer of regional hospitals to provide defined care to confirmed Ebola patients in the event the number of patients with Ebola surpasses the capability of the Ebola Treatment Facilities.

(i) Designated second layer regional hospitals will have staff extensively trained to deliver a defined level of care, and prospective triage protocols should be established to identify the criteria for transfer and admission to these regional hospitals.

(ii) DSHS should evaluate all available scientific and clinical evidence, and consult with leading scientific, medical, and ethics experts, and then establish defined levels of care for second layer designated regional hospitals in order to minimize risk to health care workers and the general community. This specifically implies that certain procedures potentially might not be done at second layer hospitals, if the risk to health care workers and the general public is proven to be extreme.

2. The Task Force recommends that DSHS immediately initiate discussions with University of Texas Medical Branch (UTMB), local officials, and stakeholder groups to establish UTMB as one of two designated Ebola Treatment Facilities for Texas.

(Update: UTMB has been named, and is currently operational, as a Biocontainment Treatment Facility capable of accepting patients with Ebola Virus Disease.)

a. UTMB/Galveston National Laboratory (GNL) is already one of the world's leading resources for all aspects of high consequence infectious diseases like Ebola. Professionals at UTMB/GNL have the expertise and world leading Texas Task Force on Infectious Disease Preparedness and Response professionals to safely and effectively care for Ebola patient needs.

b. UTMB already has in place a plan to leverage its current GNL resources, including personnel, fluid decontamination, and qualified incinerator to establish an Ebola Treatment Facility second to none. Such a facility could also be employed for a number of other high consequence infectious diseases that may arise in the future.

c. UTMB, with assistance from the DSHS, should organize a highly qualified, certified workforce both from UTMB, as well as institutions within the Texas Medical Center in Houston. This workforce will be world leading in credentials, training, and qualification, and can be mobilized to Galveston to supplement UTMB patient care staff.

    i. While the CDC has announced a rapid response force, such a response force is non-scalable in a more widespread outbreak and therefore the State should not rely on the presence of expertise that may not be available in a crisis.

d. Modified Recommendation: The Task Force recommends that the State allocate funding to assist in establishing, and then supporting costs for ongoing training, equipping, and operation, of the Biocontainment Treatment Facilities at UTMB Galveston and at UT Southwestern/Methodist/Parkland in Richardson, Texas.

3. The Task Force recommends that DSHS immediately initiate discussions with additional state health-related institutions, local officials, and stakeholder groups to establish the location for a second Ebola Treatment Facility for Texas.

(Update: UT Southwestern, Methodist Hospital Dallas, and Parkland Memorial Hospital have established a Biocontainment Treatment Facility in Dallas, announced October 21, 2014, that is currently able to treat patients with Ebola Virus Disease.)

4. DSHS should ensure that Ebola Treatment Facilities have specially trained staff and appropriate technology to care for pediatric patients with Ebola, and also assess the state's children's hospitals to determine if treatment of children with Ebola could safely be done in one or more pediatric hospitals.

   (Updated Recommendation: In collaboration with Texas Children's Hospital in Houston, the State should support the establishment and ongoing operation of a dedicated Pediatric Biocontainment Treatment Unit, which will specialize in the care of infants and children with Ebola and other high consequence infectious diseases. This unit will be the first of its kind in the United States, and likely the world, to specialize in the treatment of children.)

5. **Modified**: DSHS should develop contingency plans in the unlikely event that a widespread outbreak of Ebola occurs in Texas that overwhelms all Ebola Treatment Facilities and secondary regional centers. Plans should consider mobilization of all State resources, including the Texas *National* Guard, state employees at Health Related Institutions, etc. These plans should build upon current disaster plans with broad development that covers not only Ebola, but other high consequence infectious diseases.

Issue 2

Evaluation of, or Interactions with, Patients with Suspected Ebola Infection

(Issued October 17, 2014 with Updates and Additional Recommendations Indicated in Text)

Modified: Although only designated *Ebola Treatment Facilities* are recommended to provide in-patient care to diagnosed Ebola patients, the Task Force recommends that all hospitals, clinics, and diverse health care providers, including nurses and pharmacists, should have the knowledge, training, and capability to:

1. Identify a patient at risk for Ebola based on travel history, contact history, symptoms, and signs.

2. Call for immediate assistance from the local public health authority or other prospectively designated authority.

3. Implement the appropriate procedures for isolation of the individual in order to prevent exposure both of the provider and other individuals.

Recommendations (issued October 17, 2014):

1. The Task Force will conduct a hearing that includes a broad spectrum of Texas health professional organizations, hospital associations, urban and community institutions, county and regional health authorities, law enforcement, etc. to ascertain answers to the questions listed below. The Task Force shall then make timely recommendations based on the broad input received at the hearing:

    a. What is the appropriate and potential role of the institution/organization in education, training, and initial identification of patients with potential Ebola viral disease?

    b. What can the organization/institution do to ensure that Ebola patients will be identified on their first symptomatic encounter and receive appropriate isolation and prompt public health notification?

    c. What are best practices, including training, exercises or other measures, which could serve to ensure that Ebola patients will be identified at the earliest possible time?

d. What could be done to improve actionable information/guidance from federal, state, and local sources about Ebola or other contagious high-consequence diseases?

e. Has your organization/institution encountered any barriers in preparation for Ebola, influenza pandemics, or other contagious high-consequence diseases?

f. Are there any specific actions at the local, regional, state, or federal level to improve overall preparedness and response to infectious diseases?

(Update: The Hearing was held and input was received from a broad array of stakeholders and experts. Key messages from the hearing, as well as submitted written testimony, can be found in this report in Appendix B.)

2. DSHS should develop a standardized triage protocol that is tailored for university and community hospitals, outpatient clinics, and other sites of potential initial patient encounter.

Update: The Task Force made specific recommendations to DSHS on a triage protocol, which was implemented with minimal modifications and then shared with Texas hospitals on October 23, 2014. (Please refer to Appendix A to view Commissioner David L. Lakey's letter and the Hospital and Emergency Triage Assessment for Ebola protocol.)

Issue 3

Federal Hospital Preparedness Program

The Nation's public health infrastructure has been subject to significant funding reductions in the Federal Hospital Preparedness Program (HPP), which is intended to provide funding and support to improve surge capacity and enhance community and hospital preparedness for public health emergencies. These funds are expressly for enhanced planning at the State and local level, for increased integration across the public and private healthcare sectors, including hospitals, and other healthcare organizations and providers, and for improving infrastructure for public health emergencies. Hospitals require public funding to train and prepare for what are low probability yet high consequence, potentially catastrophic events.

HPP is meant to provide the foundation and core for exercises and ability to respond and get information out so that the nurse or physician on the front line would put Ebola or anthrax in their differential diagnosis. HPP has been reduced from approximately $500 million per year in FY2007-08 to $230 million today, including a drastic cut in the FY2014 omnibus. These cuts have had clear and identifiable consequences in Texas and have hindered hospital and community preparedness for Ebola and other high consequence infectious diseases.

Recommendations

1. The State should work with its Congressional delegation and through all other necessary means to restore federal funding for the HPP. The State should consider incremental, temporary funding until the HPP and/or similar federal programs are restored.

2. DSHS should establish clear metrics for success, accountability, and closer integration with FEMA emergency management programs.

3. DSHS should also work with hospital and professional associations to develop objectives, assessments, and practice exercises to demonstrate the efficacy of programs.

Issue 4

Education of Institutions, Health Care Providers, First Responders, and other Stakeholders

Education Prior to the Emergency

Education of diverse health care professionals is essential for the initial identification, assessment, triage, care, and isolation of patients with Ebola or other high consequence infectious diseases. By their very nature, these diseases are uncommon, and may never have been diagnosed within Texas or the United States. As such, it is vital for protection against these diseases that concise, useful, accurate, and timely information be provided to diverse groups in advance of the first patient arriving within the region. It is also important that education and training requirements not be so onerous that they distract from the daily health care and emergency imperatives of our professional workforce.

Education during the Emergency Response

It was the opinion of care providers and health care workers that the initial technical information that flowed from the initial federal team was too broad and impractical to be highly useful in bedside patient care. Detailed information and protocols for all aspects of medical, nursing, respiratory and other care for Ebola patients was needed at the onset of the outbreak, along with practical information for hospital support services such as housekeeping and hazardous materials handling. Inconsistent recommendations by federal response personnel were commonly perceived by the care providers, leading to a lack of clear guidance for hospital care until much later in the Ebola event. For example, the initial hospital PPE recommendations for ICU personnel proved to be insufficient to prevent staff from becoming ill while care for an Ebola patient.

Recommendations (issued October 17, 2014):

1. In addition to specific suggestions from the Task Force hearing, the UT System Executive Vice Chancellor for Health Affairs, in coordination with DSHS and other state educational and health related institutions, should launch an immediate and collaborative educational effort, including social media and community engagement, to educate a broad range of health care professionals, emergency responders, and public leadership on the identification and reporting of Ebola and other serious emerging infectious disease.

(Update: A collaborative educational effort has been launched via a multi-disciplinary group convened by Dr. Ray Greenberg, Executive Vice Chancellor for Health Affairs of the UT System. This group is establishing content and processes to provide education to diverse stakeholders)

2. The state's Health Related Institutions and Higher Education Institutions with health professions programs, in conjunction with DSHS, should establish an online interprofessional education module for education of the broad health care and emergency response community on the identification and initial isolation of patients with Ebola, as well as other infectious diseases of high consequence.

3. The Task Force recommends that State Licensing Boards implement an ongoing requirement for continuing education in identification and initial management of patients with Ebola and other high consequence infectious diseases.

4. EMS: The Task Force recommends establishing a specific regional designated hospital(s) to which all EMS transports of patients meeting risk criteria for Ebola should be transferred. This will enable more rapid and effective evaluation of patients, and minimize potential disruption to provision of emergency services within an entire region.

New Recommendations (issued December 1, 2014):

5. The State should organize and sponsor tabletop exercises focusing on public health emergencies for relevant health care institutions. The exercises should occur on a periodic basis, for example, every two years. The Task Force or similar expert multidisciplinary panel should review the learning objectives and the content of the exercises. In contrast to the more didactic learning experience that may be a component of continuing education, etc., tabletop exercises should focus on highly practical information, such as: identification of a patient with a novel infectious disease, including the utilization of "fake patients" in the emergency room; knowing what first steps to take for proper transport within the hospital and initial isolation, including the accessibility of PPE and cleaning equipment; becoming familiar with the right people to call and the mechanisms to contact them; who is in charge; and how to work with federal and state officials, including the role of the CDC.

6. The State should establish a mandatory continuing education requirement for first responders that must be fulfilled every two years that includes instruction on personal protection, decontamination, and ongoing risks. The Task Force recommends that this

training be developed and implemented by TEEX, which should work in collaboration with the educational initiatives in this area recommended by the UT System.

7. The State should establish a program to "train the trainers" for schools and large employers to ensure that appropriate information reaches the broadest pool of people across educational, language, and cultural barriers. Government funded points of contact (schools, clinics, libraries, COGs, community action agencies) should have the ability to obtain educational materials for distribution to their clients.

8. DSHS and Texas Division of Emergency Management (TDEM) should jointly oversee the development of a multi-disciplinary, highly trained unit similar to the Texas Task Force 1 (USAR) for rapid response but "composed of specialized personnel from throughout Texas (based on expertise) who can support the immediate laboratory confirmation, development of isolation strategies, provide experimental therapeutic agent support, and render highly specific advice related to ongoing inpatient medical care for a patient with a deadly and highly contagious infectious disease. This team should also be able to set the stage for the initial epidemiologic detective work needed in the early hours of an outbreak. This unit should have access to state aircraft and will be able to respond to any location within the Texas within 8 hours of notification by DSHS and OEM. The purpose of this unit is to provide highly specific expertise and technical services normally not resident in a state or local health department at the earliest possible time. Emergency response activation, recruitment, training, logistics, and equipment needed to support this unit should be developed by DSHS and TDEM.

9. The State should provide baseline funding for educational and operational programs so that they are sustained in between emergencies.

Issue 5

Hospital Care – Experimental Drugs

Although the Presbyterian Hospital staff reached out expeditiously to as many sources as possible, the fact of the matter is that patients were fighting for their lives and there was no readily available information about experimental drugs available to administer. There is no central repository of information on experimental drugs available to treat Ebola patients or future patients with high consequence infectious diseases. Today, physicians and patients often must track down the companies directly and seek drug candidates, or officials (such as Task Force Members) use personal contacts within the government to provide as much information as possible to the hospital treatment team. For example, Dr. Keith Brantley received ZMapp in August by hearing about it from a colleague, not from U.S. federal authorities. This lack of readily available information is both inefficient and time consuming – and leaves patients and doctors poorly equipped to provide novel therapies to a critically ill patient.

Since experimental therapeutics for rare diseases are regulated by the federal government, and in general supported financially by the federal government. The Task Force believes the provision of required information as well as attainment of access to novel vaccines and therapeutics should be a federal role.

However, federal authorities have failed to supply actionable information during the Ebola emergency in Dallas. At best, information – when available – was piecemeal, abstract, incomplete, and contained little actionable information such as where and how to get the therapeutic. As a result, calls were made around the country to contact various federal officials as well as private corporations in an attempt to find experimental therapeutics. Once identified, procedures including cumbersome regulatory paperwork were burdened onto the health care team. One therapeutic was found by concerned stakeholders outside of the operational teams, and it was subsequently transported by a third party private benefactor across the country in order to reach the patient in a timely manner.

Of note, the Texas Task Force has used its expertise to inform care providers about experimental vaccines and therapeutics. In addition, a letter was sent by the Texas Task Force to the FDA Commissioner and one of her senior staff on October 17 requesting a series of educational briefings on experimental Ebola therapeutics to the regions affected (Texas, Nebraska, and Georgia); this letter has gone unacknowledged (Appendix B).

Recommendations:

1. The State should work through its Congressional delegation and all other means to require the federal government to provide a timely and frequently updated list of all potentially useful medical countermeasures and vaccines to physicians, state public health officials, and veterinarians. This list should include a concise summary of risks and potential benefits as well as instructions for how to obtain these therapies from industry partners or governmental agencies. The FDA should be required to supply information when requested, in a timely manner, to support patient care particularly in an emergency situation.

2. Independent of federal requests for action outlined above, DSHS should work collaboratively with scientific leaders, academic institutions, industry, and to the degree possible ASPR and the FDA, to establish a web-based list of new therapeutics and vaccines in development that are at a stage that they could be potentially used in humans.

3. DSHS should work with the State's academic institutions to insure that there are specific research protocols in place to capture the meaningful data that will be generated through the use of these drugs and vaccines during an acute event such as Ebola in Dallas.

Issue 6

Personal Protective Equipment (PPE)

The Dallas Ebola crisis revealed a shortage of PPE that is vitally needed by hospital workers, including those who may find themselves unexpectedly in an Emergency Department with an Ebola patient or similar patient with a high consequence infectious disease. The shortages will become more severe as hospitals around the world hasten preparations given the Dallas Ebola experience.

Recommendations:

1. To assure protection of health care workers and prevention of further disease spread, DSHS should establish a stockpile (or regional stockpiles) of PPE and other required equipment, to support infectious disease emergencies within the state.

2. To assure protection of veterinary health care workers and prevention of further disease spread during a zoonotic emergency, TAHC and DSHS Zoonotic division should establish a stockpile (or regional stockpiles) of PPE and other required equipment, to support infectious disease emergencies within the state.

3. Stockpiles should be rotated according to standard best practices to avoid waste. Components of the stockpile should be regularly reviewed, and exercises conducted on how to access the stockpiled PPE and equipment within a timely manner.

4. The State should consider building or purchasing facilities to function as regional stockpile centers, or establish stockpiles in facilities already owned by the state, or identify another highly cost-effective alternative. This would substantially ease financial burdens on local jurisdictions, which have indicated that it often costs more in lease payments to house required stockpiles than it does to acquire the equipment and train for using it.

5. The State should establish statewide contracts for items such as PPE and waste disposal containers. These contracts must be negotiated by the State Comptroller, such that preferred pricing and accessibility is available to all agencies within the state which need such equipment. Such an arrangement will save money while reducing overall risk.

Issue 7

Control Order Authority for State Health Official

(Issued October 17, 2014 with Updates and Additional Recommendations Indicated in Text)

The Commissioner of the Department of State Health Services currently has the power to issue a Control Order for an individual who has been exposed to Ebola requiring that individual to stay within a residence. However, the Commissioner has no authority to enforce that order via law enforcement until the individual violates that order and leaves the designated premises into the public domain. Specifically, law enforcement stationed outside of the premises cannot stop the individual from leaving until DSHS is alerted of the violation, and initiates a legal proceeding so that the police can limit potential new exposures from the individual. This lack of authority potentially allows an exposed individual to put additional individuals at risk until the exposed individual can be again found and isolated.

Update: Discussion with chief health officers from other states indicated a wide range of authority. However, most of these officials already have the authority to issue enforceable control orders that could directly lead to arrest if the control order is violated. Many states do not put a time limit on the order, but do allow the contact to challenge the order in the court system if desired.

Recommendations (issued October 17, 2014):

Modified: The Legislature should empower the Commissioner of DSHS to issue an enforceable Control Order for an individual who has been exposed to Ebola for a period of at least 48 hours. This assures that law enforcement can protect the public from additional exposures that could occur under current law which requires violation of the control order before it is potentially enforceable. The Legislature should extend Control Order authority to include property, pets, and remains of the deceased.

The Task Force also recommends that DSHS, in conjunction with CDC and other authorities, comprehensively reassess contact protocols, focusing on those contacts that may require restrictions on mobility, and over what time period.

Issue 8

Epidemiological Monitoring and Contact Tracing

Contact tracing and the monitoring of exposed persons is required to control the spread of infectious diseases in a community setting. During the Texas Ebola outbreak, diverse teams including county, state, and federal epidemiologists actively monitored persons who might have been exposed.

Although effective in Dallas during this limited outbreak, there were significant deficiencies that could be difficult to overcome in a more widespread outbreak, or during an outbreak caused by a microbe that is more easily transmissible. Among the challenges identified were:

- Lack of a real time, on line system with alerts and decision support tools
- Dependence on intermittent paper communication, as opposed to real time common operating picture that could be shared by the CDC and county stationed at the hospital, the EOC, and in the future, the State Operations Center.
- Lack of scalability of the current system, particularly if required to monitor and trace hundreds or thousands of contacts simultaneously.

Recommendations:

1. DSHS should establish collaboration with external partners to develop a "real time" monitoring system that includes, but is not limited to, the following characteristics:
    a. Input of data via a mobile device or similar technology
    b. Options for manual input of data, or automated input from devices
    c. Data display tools that allow for near real time views of data by multiple different parties in different geographies
    d. Automated time stamp data with option for tracking of GPS coordinates
    e. Option to easily and rapidly change data parameters, such as temperature, vomiting, etc., depending on the nature of the outbreak
    f. Effective interface with CDC epidemiologic systems
    g. Customizable alerts
    h. Decision support tools including graphing and data query capability
    i. Secure data transmission with ability to verify who is transmitting and who is receiving this data.

2. DSHS should establish a small technology watch and implementation group analogous to the REF (Rapid Equipping Force) within the Department of Defense. This group could be housed within DSHS, or contracted to an academic group or consortium. The purpose of the group would be to have ongoing technology scouting and partnership activities to assure that the latest breakthroughs in devices, information, tracking, diagnostics, etc. are applied to the public health enterprise.

Issue 9

Disposition of Deceased

A significant issue involves the disposition of bodies of those patients who have died from Ebola. Currently, CDC guidelines indicate two options for safe disposition:

a. Cremation
b. Deep burial of a non-embalmed body, doubly bagged, in a hermetically sealed casket

Cremation provides immediate killing of all Ebola viruses within the body, and the remaining ash is completely non-infective and devoid of risk. Cremation provides the public with immediate certainty that no additional Ebola cases could occur from the remains. Embalming is not an option (per CDC guidelines) due to safety risks of those performing the embalming; therefore, the body will not be preserved even by burial.

Burial does not disinfect the body. Active Ebola virus will remain in the body for an unknown period of time. During meetings with leading world authorities on Ebola, it was noted that clotted tubes of blood from Ebola patients, left at room temperature and exposed to ambient UV, were still teaming with infectious Ebola virus after three months. This is consistent with the conventional wisdom that Ebola virus is fragile on non-porous surfaces, but may remain viable for prolonged periods in biological tissues or fluids. Although the committee understands that putrefaction would eventually yield an environment that is non-conducive to sustainment of the virus, there are no data indicating how long active infectious Ebola virus would remain present in the body.

Public health officials must weigh security risks that the buried body could be tampered with for a variety of reasons, leading to the potential for additional cases of Ebola to be transmitted. It should be noted that transmission of disease from the recently deceased is a primary means of transmission in Africa. Public health officials must also weigh the public concerns that would occur, even long after burial of the body, if material were removed from the gravesite at any time in the future. Despite a low probability of infectivity, the removal of material could cause an additional wave of concern and panic among the public. The family of the deceased should be involved in discussions, so that cultural, religious, and family concerns are considered.

Recommendation:

The Commissioner of DSHS should have the statutory authority to control the ultimate disposition of the body, and that cremation should be strongly considered given the unknown and potentially prolonged period that Ebola virus could remain infectious in a corpse.

Issue 10

Housing and Social Services

The Ebola event in Dallas highlighted a number of needs related to housing and social services. These included:

- Temporary housing facilities for individuals or families who are required to evacuate their home due to a diagnosed Ebola patient from their family who is now hospitalized. These individuals have significant limitations on their ability to find a replacement unit based on their having been near the infected persons.

- Temporary housing for individuals who require quarantine but who are homeless or who reside in a shared living facility, such as a homeless shelter, nursing home, etc. that is not suitable for quarantine.

- Persons or households may lose necessary items because of destruction as part of the protocol to address possible contamination. They may need assistance in replacing these items, particularly if they have limited incomes. As relocations occur, access to transportation may be affected, including transportation to the new location, as well as access to employment if allowed by control order.

- Social service issues:

    - There may be a need to supply financial support as those under quarantine may not have the ability to purchase required services or pay bills, including rent on the original location that is being evacuated.

    - Quarantine requires the provision of basic life necessities, including food, for those with restrictions to movement. There may be other needs, for example, medical care for ongoing chronic conditions that need to be met.

    - Not only is this an issue for the family, but it would create incentives to violate the quarantine and potentially endanger the general public.

- Pet care for displaced persons, including care of pets that may have been exposed to an Ebola patient.

- Health care workers who may need to stay close to work and/or in a more controlled access environment, including those health care workers who may be on monitoring especially limited public access.

Recommendations:

1. The State should direct DSHS and other appropriate agencies to prospectively coordinate approaches to temporary housing with local authorities, and assure that there are plans to accommodate housing of single families that may be displaced by an Ebola emergency or other infectious disease events.

2. DSHS in coordination with other state agencies should plan for and coordinate regional centers that could cohort groups of contacts, whether for housing reasons or to enforce mandatory quarantine The types of facilities envisioned could be a "dark wing" of an existing hospital, a nursing home, abandoned school, and other similar facilities that are already owned by the State.

3. In the event of a widespread infectious disease scenario, a contingency operation involving temporary quarters and facilities should also be planned with the Texas National Guard, which has substantial capabilities both in medical preparedness, logistics, and communication.

Issue 11

Laboratory Testing

(Issued October 17, 2014 with Updates and Additional Recommendations Indicated in Text)

Texas is one of 16 states authorized to conduct Ebola testing through its laboratory in Austin, Texas. Given the size of the Texas population, it is critical that the state develop additional laboratory capacity for the diagnosis of infectious and other diseases.

CDC has significant diagnostic capabilities to supplement the state, but air carriers have refused to transport samples, thus leading to the need for private aircraft transport (which does not scale) or transport by motor vehicle (which causes delay). As a result, Texas cannot rely on CDC to substantially expand the state's capability to surge rapid response testing during an emergency.

Recommendations (issued October 17, 2014):

Texas should take all necessary steps, including training of public health personnel and necessary funding for equipment, to establish at least two additional regional centers to perform Ebola diagnostic assays, and in the future, other assays for infectious diseases of high consequence.

Texas should take steps to prospectively negotiate appropriate transportation contracts that answer safety concerns of the carriers, to facilitate transport of samples in a public health emergency.

(Update: DSHS established an additional Ebola testing site in the Dallas region that played a critical role in supporting contract monitoring and ruling out of Ebola in additional potential victims.)

Issue 12

Guidelines for the Monitoring of Health Care Workers and Others Returning to Texas from Ebola-Endemic Areas in West Africa

(Issued October 31, 2014)

With the ongoing Ebola virus disease outbreak in West Africa, and the continued need for American health care workers to stem the outbreak at its origin, Texas must anticipate and embrace the return home of these heroic professionals back to their state of residence. Recently, various states have implemented a number of approaches to monitoring and restriction of movement of health care workers returning from West Africa, and the CDC issued new guidelines on October 27. Recommendations and policies, even for non-symptomatic individuals without high-risk exposure, vary from voluntary monitoring to complete quarantine for 21 days in a specialized facility. The following recommendations are submitted to the Office of the Governor for use by the Department of State Health Services and other state agencies to address the monitoring and potential restriction of movement for health care workers returning to Texas after caring for Ebola patients in West Africa.

Background Information on Ebola Transmission

The Task Force reaffirms that Ebola virus is transmitted only by direct contact with fluids, secretions, or blood from a symptomatic patient with Ebola virus disease. Consistent with this mode of transmission, it is noteworthy that none of the 48 household or other close non-health care worker contacts of the Dallas index patient (Mr. Thomas Eric Duncan) contracted Ebola. **Updated: All of the other direct contacts of Mr. Duncan and subsequent patients remained asymptomatic and Ebola free.** Two ICU nurses did acquire Ebola disease after caring for Mr. Duncan when he was critically ill and his viral load was exceedingly high, in the context of invasive ICU procedures (breathing tube in trachea, dialysis, rectal tube), and during the clinical phase when there were many liters per day of secretions and diarrhea. The Texas experience to date reflects the previous global experience of transmission occurring through close contact with body fluids from a symptomatic patient, typically in the more advanced stages of Ebola disease, or from the body of a person who died from Ebola.

The Task Force affirms, and the science supports, that the risk of transmission of Ebola from an asymptomatic individual is near zero and that direct monitoring of these individuals provides effective early warning of impending disease and allows appropriate isolation and treatment

before further transmission of the disease can occur. Based on the scientific literature as well as experience from the recent Texas cases and outbreaks in other parts of the world, the Task Force offers the following recommendations, which will apply to the great majority of returning health care workers. In addition, the Task Force affirms the importance of guidelines while noting that guidelines are not a substitute for assessment and decision-making by qualified health professionals, who may find extenuating circumstances which could modify the level of risk and then increase or decrease the level of restrictions based on factors such as exposure risk and the cooperation of the individual being monitored.

Recommendations (issued October 31, 2014):

1. In the following Task Force recommendations, 'asymptomatic" is defined as having a temperature <100.4 ^{o}F without fever-reducing medication AND no vomiting, diarrhea, bruising/bleeding, or other symptoms consistent with Ebola virus disease. All patients being monitored should be instructed to avoid fever-reducing medications such as Tylenol and ibuprofen without first consulting their assigned public health professional.

2. Regardless of risk level, any returning health care workers with symptoms consistent with Ebola upon arrival into the State of Texas should be immediately isolated and transported to a facility capable of evaluation and testing as appropriate. If evaluation and/or testing indicate a person does not have Ebola, the individual should be monitored based on risk category for the remainder of the 21 days following the last possible exposure to the Ebola virus.

3. Asymptomatic, returning health care workers with a " High risk exposure" are defined as individuals who have had any of the following:

    a. a percutaneous (needle stick injury) or mucous membrane exposure to blood or body fluids of a person with Ebola while the person was symptomatic;

    b. exposure to the blood or body fluids (including but not limited to feces, saliva, sweat, urine, vomit, and semen) of a person with Ebola while the person was symptomatic and without the use of appropriate Personal Protective Equipment (PPE);

    c. processed blood or body fluids of a person with Ebola while the affected person was symptomatic and without the use of appropriate PPE or standard biosafety precautions;

d. direct contact with a dead body without the use of appropriate PPE in a country with widespread Ebola virus transmission;

e. lived in the immediate household and provided direct care to a person with Ebola while the person was symptomatic.
For individuals in this category, the Task Force recommends:

i. assessment upon arrival (airport, train station, etc.) by a qualified public health professional from the Department of State Health Services, potentially in conjunction with local health officials. This evaluation will confirm the absence of fever and any other symptoms of Ebola virus infection;

ii. direct monitoring for fever and other symptoms of Ebola infection for 21 days, which could include a combination of direct visits by a trained public health or medical professional and digitally enabled, visualized supervision and monitoring (such as Skype video-teleconferencing);

iii. placement of the individual on the CDC Do Not Board (DNB) status to prevent travel by airplane;

iv. issuance of a Control Order for quarantine, meaning that the individual cannot leave his or her house without approval from the Public Health Authority.

4. Asymptomatic, returning health care workers with "Some Risk," are defined as individuals who have had any of the following:

a. direct contact while using appropriate PPE with a person with Ebola while the person was symptomatic;

b. close contact but not direct care in households, healthcare facilities, or community settings with a person with Ebola while the person was symptomatic.

For individuals in this category, the Task Force recommends:

i. assessment upon arrival by a qualified public health professional from the Department of State Health Services, potentially in conjunction with local health officials. This evaluation will confirm the absence of fever and

other symptoms of Ebola infection, as well as the absence of High Risk exposure (as defined previously) by in-person interview;

ii. direct monitoring for fever and other symptoms for 21 days, which could include a combination of direct visits by a trained public health or medical professional and digitally enabled, visualized supervision and monitoring (such as Skype video-teleconferencing);

iii. limitations on public interaction and exposure, including prohibiting the person from participating in public travel (e.g., aircraft, train, bus, etc.), in public events, in large congregate setting activities and in patient care. Public health authorities should work with local governments to ensure the individuals' basic needs are being addressed. Visitors may be permitted;

iv. failure to comply with these public health directions can result in Control Order. A control order may also be considered based on risk or probable compliance with public health directions.

Current data indicate that the likelihood for someone to transmit Ebola without being symptomatic is near zero. The recommendations for evaluation, direct monitoring, and especially for some level of quarantine or limited movement are made with the highest possible concern for public safety and peace of mind. This category of recommendations should be revisited as more data on disease transmission are accumulated.

To further emphasize this point, the Task Force does not support mandatory government-imposed strict quarantine for cooperative asymptomatic health care workers who do not fall in the "High Risk" category.

5. Recognizing the financial strain that 21-day isolation could place on workers, the state should adopt policies that do not result in discouraging people from aiding Ebola patients in West Africa. A number of options already exist that employers could use to ensure health care workers are not financially penalized while quarantined. Those options include regular sick leave, FMLA, administrative leave, emergency leave, and where possible telecommuting. The state also should consider options to encourage the private sector to do its part in minimizing financial hardship to quarantined health care workers. Asymptomatic, returning health care workers with " Low risk exposure" are defined as individuals who have:

a. been in a country with widespread Ebola virus transmission within the past 21 days and have had no known exposures;

b. had brief direct contact (e.g., shaking hands), with a person infected with Ebola virus prior to displaying symptoms;

c. had brief proximity, such as being in the same room for a short period of time, with a person with Ebola virus while the person was symptomatic;

d. traveled on commercial or public conveyance with a person with Ebola while that person was symptomatic, but were not exposed to body fluids.

   For individuals in this category, the Task Force recommends:

   i. in-home visit by a medical or public health professional within 12 hours of notification;

   ii. consultation with DSHS Emerging and Acute Infection Diseases Branch if the initial interview by local public health establishes a higher level of risk;

   iii. implementation of appropriate measures if there is establishment of a higher level of risk;

   iv. twice daily temperature checks at least 6 hours apart for 21 days after departure from an affected country.

Summary Table

Risk Categories:

High risk exposures: Percutaneous (e.g., needle stick) or mucous membrane exposure to blood or body fluids of a person with Ebola while the person was symptomatic; exposure to the blood or body fluids (including but not limited to feces, saliva, sweat, urine, vomit, and semen) of a person with Ebola while the person was symptomatic without appropriate PPE; processing blood or body fluids of a person with Ebola while the person was symptomatic without appropriate PPE or standard biosafety precautions; direct contact with a dead body without appropriate PPE in a country with widespread Ebola virus transmission; having lived in the immediate household and provided direct care to a person with Ebola while the person was symptomatic.

Some risk exposures: In countries with widespread Ebola virus transmission, having direct contact while using appropriate PPE with a person with Ebola while the person was symptomatic; close contact in households, healthcare facilities, or community settings with a person with Ebola while the person was symptomatic. (Close contact is defined as being for a prolonged period of time while not wearing appropriate PPE within approximately 3 feet of a person with Ebola while the person was symptomatic.)

Low (but not zero) risk exposures: Having been in a country with widespread Ebola virus transmission within the past 21 days and having had no known exposures; had brief direct contact (e.g., shaking hands), with a person infected with Ebola virus prior to displaying symptoms; brief proximity, such as being in the same room for a brief period of time, with a person with Ebola while the person was symptomatic; in countries without widespread virus Ebola transmission: direct contact while using appropriate PPE with a person with Ebola while the person was symptomatic; traveled on an aircraft with a person with Ebola while the person was symptomatic.

No identifiable risk exposures: Contact with an asymptomatic person who had contact with a person with Ebola; contact with a person with Ebola before the person developed symptoms; having been more than 21 days previously in a country with widespread Ebola virus transmission; having been in a country without widespread Ebola virus transmission and not having any other exposures as defined above.

Exposure Category	**Clinical Criteria**	**Public Health Actions**
High Risk	Asymptomatic upon arrival in Texas	• Public Health meets at the airport, and retakes temperature • Support Do Not Board (DNB) if issued by CDC • Notification of local health authority followed by in-home visit within 12 hours of notification • Control Order issued for quarantine (No public transportation, participation in large congregate setting activities, and no leaving home) • Twice daily temperature checks at least 6 hours apart for 21 days after departure from country o 2 temperature/symptom checks per day in person by local health authority • Proceed to "symptomatic" if indicated
Some Risk	Asymptomatic upon arrival in Texas	• Public Health meets at the airport, and retakes temperature • If initial interview demonstrates need to reassess risk, consult with DSHS Emerging and Acute Infection Diseases Branch • If elevation of risk is agreed upon, follow instructions for the higher risk category • Support Do Not Board (DNB) if issued by CDC • Notification of local health authority, followed by in-home visit within 12 hours of notification • Twice daily temperature checks at least 6 hours apart for 21 days after departure from country o 2 temperature/symptom checks per day face-to-face by local health authority for 14 days o Last 7 days 2 temperature/symptom check per day via visualization by video conferencing by local health authority • No public transportation or participation in large congregate setting activities; failure to comply can result in Control Order • Visitors may be permitted. • Healthcare workers are not allowed to care or any patients Proceed to "symptomatic" if indicated

Exposure Category	**Clinical Criteria**	**Public Health Actions**
Low Risk	Asymptomatic upon arrival in Texas	• Notification of local health authority followed by in-home visit within 12 hours of notification • If initial interview demonstrates need to reassess risk, consult with DSHS Emerging and Acute Infection Diseases Branch • If elevation of risk is agreed upon, follow instructions of the higher risk category • Twice daily temperature checks at least 6 hours apart for 21 days after departure from country o 2 temperature/symptom checks per day via visualization by video conferencing Proceed to "symptomatic" if indicated
A person of any risk category	Symptomatic upon arrival in Texas: Fever (subjective fever or measured temperature ≥100.4○F/38○C) OR any of the following: • Severe headache • Muscle pain • Vomiting • Diarrhea • Stomach pain Unexplained bruising or bleeding	• Implement rapid isolation • Arrange for designated transport • Arrange for medical evaluation • If medically determined not to have Ebola infection, return to assessed risk-appropriate asymptomatic protocol for remainder of 21 days Notify DSHS Emerging and Acute Infection Diseases Branch of outcome of medical evaluation
No Identifiable Risk	Not Applicable	No monitoring

Issue 13

Organization of the Incident Command Structure and Overall Command and Control

Two of the most fundamental questions required for controlling a potentially catastrophic infectious disease outbreak, such as Ebola, are the following:

1. Who is in charge?
2. Is the person (s) in charge sufficiently qualified to make decisions that could affect millions of lives throughout the State and the nation?

Local health departments/authorities across Texas manage infectious disease investigations (such as HIV, sexual transmitted disease, tuberculosis or foodborne outbreaks) every day. If the investigation is large, they may institute an incident command structure within their agency and may ask the state health department or the CDC for assistance. Since Texas is a home rule state, the local health department/authority is still the lead during infectious disease outbreaks, and the line of authority goes to the local elected and/or appointed leadership and not to the state health department or the CDC.

Command and Control

Certain events, however, are so complex or large that multiple sectors of government besides public health must be intimately involved in the management. The response may require involvement and coordination among public safety, education, environmental services, mass care, animal health, the military and emergency medical services. In these large and very visible events, a broad and capable incident management structure should support the local health response, including all functions and structures outlined in an Emergency Support Function 8 (ESF 8) framework. Public health works as one part of the overall emergency management system.

Regardless of event, the National Incident Management System (NIMS) has several named positions and functions, among which are the *Incident Commander* (IC) and *Incident Manager* (IM). The IC is in the field, supporting an Incident Command Post ICP (location), the Incident Manager (IM) (often the Emergency Management Coordinator) resides in the Emergency Operation Center (EOC) supporting the ICP/ICPs. At the ICP *and* EOC, there are suggested reporting structures/organizational charts for Unified Command. In Unified Command, multi-disciplined and/or multi-jurisdictional partners decide to work together for the common good and common goals and objectives. No disaster of any kind recognizes or respects jurisdictional or

political boundaries. Every time there is an incident that spans more than one discipline or jurisdiction, Unified Command is the suggested structure.

Even following an official Declared State of Disaster by the Governor, local authorities maintain leadership, but always have the option of involving State of Texas capabilities and personnel, including the Commissioner of DSHS and the Chief of the Texas Division of Emergency Management. These and other state officials and/or capabilities remain in a supportive role unless otherwise requested by local authorities.

For the Ebola outbreak in Dallas, the Dallas County Emergency Manager, who reports directly to the Dallas County Judge, became the incident commander. Per the request of the Dallas County Judge, the DSHS Commissioner and several members of his executive team were imbedded into the Dallas County EOC. The DSHS Commissioner worked with the county judge to set policy, which was then implemented by the incident commander.

During the event, Texas DSHS had both local and statewide responsibilities throughout the Ebola outbreak. DSHS coordinated and performed Ebola diagnostic testing not only for the Dallas region, but multiple other areas of Texas. DSHS supplemented the local epidemiology and surveillance capacity in Dallas, while also responding to other persons under investigation in other jurisdictions. DSHS put in place control orders for individuals in Dallas. And throughout the response DSHS, in collaboration with the Texas Task Force, coordinated other statewide Ebola related activities, such as education of hospitals, medical providers and EMS systems, responding to multiple school districts, and defining statewide policy on returning healthcare workers from West Africa. The state worked closely with local health departments, governmental jurisdictions, and health care partners across the state regarding these activities.

In addition to State level resources, the CDC rapidly responded to a request for assistance from state authorities, and provided technical and scientific advice and recommendations. Although local health departments cannot directly request for assistance from the CDC, the state health departments do so on their behalf. However, it is important to note that the CDC is not intended to "be in charge" and will contribute only in a supportive, advisory role.

The Principle of Local Control

The State of Texas Disaster Management System is based on local control and management as outlined in the Texas Disaster Act Chapter 418, Texas Government Code, and explicitly recognizes that:

- Texas' local jurisdictions vary widely in their: geography; population numbers and make-up; structure and size of their medical, public health, and emergency management functions; and availability of resources. As a result, they vary widely in the threats they

face, the vulnerability of their populations, and the response resources immediately available to them to respond to emergencies.

- Response to disasters is the responsibility of local jurisdictions, and emergency response is best coordinated at the local level with support immediately implemented at the regional, State, and Federal levels when requested.

- Local jurisdictions are vulnerable to natural and man-made disasters that can exceed the capacity of one jurisdiction's ability to respond to the health and medical needs of the community. Public health and medical resources in most communities are already at or near maximum capacity and capability during day-to-day operations. Response to disasters requires shifting priorities to focus on the event.

- Each agency and/or healthcare system within each local jurisdiction will implement their agency specific, appropriate, and prudent plans and procedures when actually or potentially threatened by natural and/or man-made disasters, or any other event that causes a surge or excessive demand on local public health and/or medical capabilities.

Unique Characteristics of Severe Infectious Disease Outbreaks

The Dallas Ebola events have highlighted that management of high consequence infectious diseases situations may have fundamentally different characteristics than management of other natural disasters:

- The cause of the event is a contagious disease that is typically lethal, transmittable, difficult to decontaminate, and/or is novel and unanticipated by the medical and emergency management communities.

- Infectious disease outbreaks have a significant psychological impact to communities. Misinformation, panic and extreme reactions driven by fear and sensationalizing of the conditions must be managed.

- Even a single case of a high consequence infectious disease has enormous medical, socioeconomic, and potentially political or military consequences. The types of diseases that fall into this category include: Ebola, Marburg, and other hemorrhagic fevers; SARS (severe acute respiratory syndrome); MERS (Middle East respiratory syndrome); smallpox; anthrax; avian or other highly pathogenic influenza; and other similar diseases.

Among the important differences between emergency management of these diseases compared to most natural disasters are as follows:

- **Contagious infectious diseases have implications that are widely geographically dispersed**

  Contagion and therefore potential consequences are not limited to a single local geography, but typically involve multiple jurisdictions simultaneously - or even the state or nation as a whole. Depending on the virulence of the infection, the consequences could be limited to a few local cases, but could also result in a widespread national catastrophe with many thousands of deaths (or more). In addition, those exposed may reside in, or commute back and forth, across multiple jurisdictional lines immediately demanding a higher level of coordination. Waste, or other hazardous materials, may be transported out of the initial jurisdiction for appropriate disposal and disposition. All data from the Dallas Ebola event, which would be magnified exponentially with a more contagious disease such as SARS, demonstrate *that such rare*, *high consequence infectious diseases have the potential to be a state wide problem from the moment the first case is diagnosed.*

- **Evacuation may be beneficial in a natural disaster; but counterproductive for an epidemic**

  While hurricanes, wildfires, and similar scenarios may call for evacuation as an option, at the discretion of local authorities, "evacuation" in an infectious disease emergency is more likely to disseminate the problem even further throughout the state or nation.

- **It is not possible to develop sufficient expertise for novel, high consequence infectious diseases within every local Texas jurisdiction**

  The types of infectious diseases of concern are all similar to Ebola in that they are unusual and thought to be of low probability of occurrence in the United States. As a result, many jurisdictions may not have the necessary expertise across the full range of disciplines that are required, including public health, waste management, etc., to immediately address such a low probability event.

- **Local public health officials vary in infectious disease expertise as well as reporting lines**

  Many counties have no public health officials and rely on the state DSHS to fulfill that role. Therefore, the Commissioner of Health or a DSHS Regional Medical Director is designated as the local public health official responsible. Other counties may have public health officials who are specifically trained in aspects of public health, such as sanitation or environmental protection that are highly relevant during normal operations, but may in

some circumstances be inadequate to manage high consequence infectious diseases for which millions could be at risk.

By analogy, similar to the fact that every hospital should not be expected to care for an Ebola patient (or burn patient or premature infant, etc.), it is unreasonable to believe that every local public health official will, or even should, be prepared to lead an emergency response against novel infectious disease emergencies such as Ebola, MERS, or anthrax. In addition, local health officials may have different reporting lines, depending on the organization within that jurisdiction. Such reporting lines may complicate the lines of authority during an outbreak, leading to uncertainties in decision making processes and authorities. Furthermore, the public health measures needed to contain novel infectious diseases, such as quarantine and school closure, can be controversial and subject to local political pressure, and confusion occurs when there are significant jurisdictional differences in their application.

- **The dissemination of information to the public must be carefully managed**

  Because of the potential for fear-driven behavior may occur as a result of a lack of information or imprecise or inconsistent messaging, it is crucial that messages and information provided to the public be developed in a proactive and transparent manner. Trust by the public is crucial; the media should only be used in a planned, purposeful and predictable manner, and only when there is additional information to provide.

Assessments Based on the Dallas Ebola Situation

Particularly in the early stages of the Ebola response, there were significant issues related to command and control. Success in the early Ebola response was more a result of extraordinary and persistent collaborative leadership among a few individuals than it was because of a highly tuned, adequately resourced system. Examples of issues identified by the task force, either by personal observation or in subsequent interviews, are as follows:

- The roles and responsibilities of the city, county, state, and federal partners were initially unclear.

- The State of Texas Commissioner of DSHS (Dr. Lakey) served in a collaborative structure along with the county judge (Judge Jenkins). Although this structure was unorthodox in its design and implementation, placing the Commissioner of DSHS in a collaborative leadership role was essential for an effective response.

- Despite the addition of Dr. Lakey and the prominent role of DSHS, especially early on in the response, the Dallas County EOC was challenged by a lack of sufficient personnel, resources, and capabilities that forced the Dallas County EOC leadership – often by persistence and brute force – to handle situations and solve problems that could have been more easily addressed if additional expert resources were immediately available. Of importance, state resources were available, but they were not requested under the law established by the legislature. Among the range of problems identified by participants in the process included:

    - Lack of efficient and secure communications to Presbyterian leadership, health care providers, and the CDC epidemiologic team
    - Lack of prospective communications with CDC leadership in Atlanta and national leadership in Washington, D.C., leading early on to differing messages from national and local spokespersons
    - Suboptimal integration of county, state, and CDC epidemiology investigative efforts;
    - Lack of a real-time common operating picture, particularly of contact tracing and assessment that was essential to the operation at all levels
    - Limited availability of highly trained resources and capabilities for decontamination, waste transportation, and waste disposal
    - Difficulty in securing vehicles for transportation and logistics of transport including that of clinical samples

- As the Ebola situation matured, more resources were integrated into the operation, leading to the enhanced availability of communications, qualified contractors, and ability to coordinate. The Task Force wants to emphasize that the Dallas County EOC and epidemiologic teams performed with extraordinary dedication and skill, but that there were many points of potential failure that could have dramatically changed the outcome of the outbreak, and would be even more critical in diseases that are more easily transmitted (such as MERS).

- The Task Force assesses that in novel infectious disease situations, such as Ebola, a response model needs to be implemented that maximizes the core competencies of both the state and local levels, while recognizing that these situations will be – by definition – sufficiently improbable that core trained resources are only feasible at the state, and perhaps national levels, to provide the best assurance for disease control and limited transmission.

Recommendations:

1. Notwithstanding the exceptions below, the Task Force agrees with the current emergency management framework that provides for local control, including control by the local health official as the lead. It is vital that localities reassess their current plans based on the Ebola experience, and that these plans be reviewed by DSHS. Review should include internal and external review to assess how the local jurisdiction will assemble and maintain the resources required to optimally address a critical outbreak from its earliest, most important hours of onset.

2. Formal training should be required regarding incident management for emergencies that involve high consequence infectious diseases.

3. The Task Force recommends that DSHS, in coordination with local authorities, perform intermittent exercises and education, so that when an infectious disease crisis arises, localities have confidence in the plans that have been developed and practiced. For emergencies such as Ebola, local authorities should request immediate assistance from DSHS, who in turn would request assistance and advisement from the CDC and other authorities, through the request for assistance process outlined in state law, rules and policies.

4. Because of the potentially catastrophic consequence of a severe infectious disease to the remainder of the state and the nation, the Task Force recommends that the State provide a limited exception to the principle of local control, and therefore enable the declaration of a "State of Infectious Disease Emergency." Specifically, after advisement by the Commissioner of the Department of State Health Services (or equivalent), and in consultation with the Chief of the Texas Division of Emergency Management, the Governor should be legislatively authorized to declare a "State of Infectious Disease Emergency," which is different than the currently codified "State of Disaster."

5. A "State of Infectious Disease Emergency" could only be declared in a narrow set of circumstances involving a novel infectious disease, such as those described earlier in this document, such as Ebola, anthrax, MERS, smallpox, avian influenza, or similar diseases.

6. Because the welfare of the entire state, and possibly the nation, is dependent on early public health actions, the Task Force recommends that during a State of Infectious Disease Emergency, the Commissioner of the Department of State Health Services have leadership authority ***for all state and local public health policy decisions, procedures, and disease control measures*** necessary to contain and ultimately overcome the

infectious disease emergency. Specific roles and responsibilities for the local health and emergency management authorities should be defined by specific statewide preparedness guidance and procedures.

7. The State of Texas needs to assure that officials at the local and state level are fully qualified and prepared to assume leadership responsibilities, whether voluntarily requested by local authorities, or if indicated by a declaration by the governor.

Issue 14

Decontamination and Waste Removal

Despite the fragility of the Ebola virus, and its susceptibility to routine decontamination procedures, appropriate caution was exerted to assure that facilities and residences were appropriately decontaminated, and certain materials which would be difficult to decontaminate (for example, porous material such as potentially soiled carpet) would be appropriately contained, transported, and incinerated.

During the Dallas event, there were very substantial challenges related to decontamination, waste removal, and waste disposition. These challenges led to the accumulation of appropriately contained waste within a separate room of the medical ICU, storage of waste on trucks outside the hospital pending authorization to transport, prolonged storage of bagged waste in Mr. Duncan's apartment, and other similar difficulties. Although decontamination and disposal of waste was successful in this event, the system would have been overwhelmed with only a handful more of Ebola patients, or much worse with agents highly difficult to decontaminate such as anthrax or weaponized biowarfare agents.

As an example of the magnitude of the issues, initial decontamination of Mr. Duncan's apartment generated approximately 142 95-gallon overpack drums, most of which contained 55-gallon drums of waste, but a few contained bulk materials like TV's, chairs, etc. that were wrapped according to U.S. Department of Transportation (DOT) Special Permit guidelines. The decision to bag-haul-incinerate versus in place decontamination appeared to be significantly influenced by the lack of established decontamination protocols applicable to the cleanup of Ebola wastes.

For Ebola, which is a fragile virus on non-porous surfaces, actual decontamination was much less of an issue than it could have been for stable pathogens, such as anthrax spores, or if there were large quantities of body fluids which had soiled carpets. So it is critical that decontamination procedures and waste removal procedures be prospectively developed, planned, practiced, and implemented.

Also, delays and complexities arose as a result of the multiple levels of permitting and /or approvals required to perform the end-to-end process, including the following:

- As determined by the DOT and U.S. Centers for Disease Control and Prevention (CDC), any material contaminated or suspected of being contaminated with the Ebola virus is regulated as a hazardous material under federal Hazardous Materials Regulations

(HMRs) when transported in commerce (49 C.F.R., Parts 171-180). Under those regulations the Ebola wastes must be packaged and transported as Category A – Infectious Substances ("Category A wastes") in strict conformity to the HMRs or under the terms of a DOT Special Permit.

- The medical waste contractor for Presbyterian Hospital was authorized to transport medical waste, but, since the waste generated from the Ebola patient was classified as Category A waste the contractor needed to be properly trained to transport hazardous materials in accordance with federal Hazardous Materials Regulations before any waste could be moved.

- In addition, since all approved packaging available for use in the transportation of Category A waste is generally intended to handle small patient specimen size quantities (i.e. for lab testing), no packaging compliant with HMRs was readily available that could accommodate the large sizes and volumes of waste associated with the Ebola patients care and decontamination activities. Therefore, an emergency Special Permit was needed to authorize transportation of these materials in alternative packaging designs that would safely accommodate the large volume of wastes. The DOT Special Permits were strictly limited to the permit grantee, a specific packaging configuration , and the total amount of waste that could be disposed of under the permit. As a result, additional delays were incurred while the waste contractor was required to go through a lengthy and confusing federal application process to receive an approved special permit.

- After DOT issued a Special Permit, the medical waste contractor transported the initial shipment of Category A waste from Presbyterian to a medical waste treatment facility in another state. This facility housed an incinerator owned by the contractor. Once the state learned that this waste was being treated within their borders, they refused to allow any additional waste to be transported into their state for treatment and disposal. This necessitated finding a Texas facility that was authorized and willing to accept Category A waste.

- Texas currently has 13 Municipal Solid Waste (MSW) and Industrial Hazardous Waste (IHW) facilities authorized to accept and treat Category A wastes (by autoclave and/or incineration). Of those 13 authorized facilities in Texas, only one IHW facility initially agreed to accept the Category A wastes. Once a Texas IHW facility was located that would agree to accept the waste for incineration, additional difficulties arose due to the IHW facility design that required the waste to be packaged in poly or metal drums for incineration. Since all of the waste generated at the hospital was packaged in fiberboard drums as approved in the original DOT Special Permit, this meant the waste packaging

configuration would need to be modified (without opening any of the original packages) and a new DOT Special Permit would be needed.

- A MSW incinerator facility in Texas was located that could accept the waste without requiring it to be re-packaged and they agreed to accept the remaining Category A wastes from the hospital.

- The waste generated in the three apartment cleanups was incinerated at the Texas IHW facility. Two additional DOT Special Permits were needed to handle the packaging requirements associated with the disposal of the apartment wastes, which caused further delays.

- Following incineration, there were additional difficulties in disposal of completely inert ash, because the incinerated ash was prevented by another state's officials from crossing state lines.

As a result of these and other related issues, removal of waste was delayed and necessitated dedication of valuable time from the leadership team. More importantly, if not solved, decontamination and waste removal in a more expansive epidemic have the potential to cripple the system and risk exposing additional people to potentially infectious materials.

Recommendations:

1. Direct the appropriate state agencies to work with medical professionals to determine their capabilities and what state assistance, if any, is needed to ensure that waste can be properly and safely treated by the medical profession on-site. Specifically their capabilities of treating medical waste on-site (at the medical facilities) with autoclaves or other sanitary procedures that renders the virus noninfectious (dead) thus allowing the waste to be handled as regular medical waste. On-site treatment would also reduce the regulatory burden and would expedite the disposal process by eliminating the need for DOT Special Permits and would allow for the usual storage, treatment, transportation, and disposal of medical waste that is already allowed under both federal and state law.

2. Direct the appropriate state agencies to evaluate all portable treatment options, research their operation specifications, and develop procedures to rapidly deploy these portable treatment operations through vendor contracts or through state purchase, if needed.

3. Direct appropriate state agencies to evaluate and identify all necessary decontamination and waste handling procedures and determine if additional procedures are needed.

4. Local jurisdictions should establish plans for decontamination, transport, and ultimate disposition of Category A waste. Absent substantial preparation and resources, local jurisdictions should plan to request assistance from state resources.

5. At whatever level of jurisdiction the event will be managed, there needs to be, at minimum, the following components of a public health emergency action plan:

    a. Prospective relationships with a select few key qualified decontamination contractors who are able and willing to decontaminate even the most resilient microbes. Ideally, contractors would supply an integrated solution that includes transportation from the initial contaminated sites to authorized treatment facilities, and then final disposition of the waste (i.e. transportation and disposal of incineration ash or autoclaved materials). In this regard, in response to the Dallas Ebola cases, CDC has recently released "Interim Guidance for the U.S. Residence Decontamination for Ebola Virus Disease (Ebola) and Removal of Contaminated Waste" http://www.cdc.gov/vhf/ebola/hcp/residental-decontamination.html.
    OSHA has also issued a Fact Sheet titled "Cleaning and Decontamination of Ebola on Surfaces (updated 11/2014)." https://www.osha.gov/Publications/OSHA_FS-3756.pdf

    b. On October 24, 2014 DOT issued a non-site specific special permit (Special Permit DOT-SP 16279). This permit provides carriers with flexible alternative authorized packaging options for transporting waste contaminated or suspected of being contaminated with the Ebola virus for treatment and disposal. This new non-site specific permit can be used anywhere in the United States once the carrier applies for and is granted party status. http://phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/DOT_SP_16279.pdf

    c. Development and implementation of guidelines for hospitals for the safe disposal of urine and feces into the sewer following appropriate treatment with bleach or other agents in the commode/toilet. The CDC issued new Interim Guidance for Managers and Workers Handling Untreated Sewage from Individuals With Ebola in the United States on November 20, 2014. http://www.cdc.gov/vhf/ebola/prevention/handling-sewage.html

d. Identification and contracting with treatment facilities within Texas, or establishment of agreements with adjoining states that would enable the transport of waste and/or already treated wastes across state lines during similar situations.

6. State agencies should assure that regional supplies of appropriate containers to handle Category A waste are available.

Issue 15

Communications

Communication issues were highlighted by nearly every stakeholder group participating in the Ebola patient treatment, epidemiologic investigation, and command and control leadership.

Prior to the Ebola emergency, health care providers on the front line expressed difficulty in assessing and prioritizing the numerous infectious disease notifications and instructions that they received from multiple organizations on a frequent basis. The volume of material and often the theoretical nature of the information were often felt to be "non-actionable" within their institutions. In addition, officials at the federal level changed recommendations throughout the emergency response.

Communication issues were prominent in all aspects of the emergency response. This included communications between the federal government and the state, and the state to all components of the Texas health care system. In addition, Texas as a Home Rule state has other jurisdictional issues that must be navigated during a public health emergency that crosses cities and county borders. Among the communications challenges highlighted were:

- Insufficient and non-timely communication by CDC to the local, county, and state health authorities, particularly early (first 48 hours) in the emergency.
- Lack of consistent messages being delivered by the CDC and state/local officials.
- Lack of secure communications, and inadequate verification of the callers' credentials, particularly when hospital personnel were called by the EOC or higher levels of command and control.
- Hospital staff and key leadership personnel were required to use their own personal cell phones for communications.
- At a critical time during the response, cell phones ceased to operate due to over usage in the immediate area.
- No apparent "chain of health communications" existed to serve all responders sufficient to ensure that critical information would be communicated to all parties in a timely manner. This specifically refers to editorial and a validation function that must be applied to health information that is to be distributed to stakeholders during an emergency response.

- Inadequate organization of information requests to the health care providers and incident command personnel, in that the same information was requested by numerous parties many times.

Recommendations:

1. DSHS should expand its health communications function to deliver timely, prioritized, easily actionable communications to all levels of health care providers. In an epidemic, health information is complex and rapidly evolves. DSHS should involve relevant medical, nursing, hospital, and other associations within Texas to create health information specifically targeted to each audience. Planning should include "pushed" communications, website reference, social media, and other forms to engage these constituencies.

2. DSHS should review how iterative public health and medical information is communicated during an emergency. Data streams and serial reports need to be turned into "useful information" during the time of crisis. This will require both an information technology solution as well as editorial/distribution fix to include version control. This issue will also need to be addressed in the ICS and EOC context to ensure proper integration.

3. A dedicated communications officer/team needs to be the point of contact to assure timely, relevant, and consistent messaging throughout the emergency at all stakeholder levels, but specifically within the EOC context.

4. DSHS should have the capability to deploy and ensure secure communication devices to relevant participants including command and control, epidemiology teams, health care providers, and relevant administrative personnel. The most important issues seem to reside with the inability to authenticate participants or organizations during urgent exchanges of health information by telephone and email.

5. Similar consideration is needed for ongoing communications with the public during such an emergency. If the Commissioner of Health is not always available, a designated "Communications Leader" should be appointed to fill this important function during regular intervals throughout the emergency response, according to principles and procedures outlined in the NIMS/ICS.

Issue 16

Care and Monitoring of Domestic Animals

As illustrated by the Ebola emergency in Dallas, and in all other previous natural and man-made disasters, significant consideration should be given to the care, monitoring, and disposition of domestic animals, especially pets. Not only is care for companion animals ethically appropriate, but it has been proven repeatedly that humans will not seek attention, shelter, or potentially report their illness to protect the life and well-being of their pets. Therefore, it is both appropriate as well as necessary for outbreak control that prospective attention be provided to animals – both potentially exposed and not exposed – during infectious disease emergencies.

The American Veterinary Medical Association (AVMA) and Center for Disease Control and Prevention (CDC) companion animal working group recently released a set of interim guidance documents for quarantine of a companion animal (dog or cat) after exposure to a human with confirmed Ebola Virus Disease and outlining steps required to perform an adequate risk analysis to determine disposition of an animal that belongs to an Ebola Virus Disease Contact.

The AVMA/CDC livestock disease working group is similarly developing guidance documents for handling livestock that have been exposed to a human with confirmed Ebola Virus Disease and outlining steps for performing an adequate risk analysis and determining disposition of livestock that belong to an Ebola Virus Disease Contact.

Recommendations:

1. The Texas Department of State Health Services (DSHS), Texas Animal Health Commission (TAHC), Texas A&M College of Veterinary Medicine and Biomedical Sciences, and the Texas A&M Veterinary Diagnostic Laboratory, in consultation with the AVMA should review these documents, augment or changes where appropriate, and submit a final set of guidelines to the Office of the Governor which will be tailored to Texas for handling and testing domesticated animals that have been potentially exposed to Ebola virus, and over a period of time, other similar high consequence agents.

2. During this process, gaps in knowledge and policy should be documented and communicated, and a prioritized list of policy options and research projects should be developed and submitted to the Office of the Governor.

3. DSHS, TAHC, Texas A&M College of Veterinary Medicine and Biomedical Sciences, and the Texas A&M Veterinary Diagnostic Laboratory, in consultation with the American Veterinary Medical Association and other livestock industry representatives, should develop interim guidance documents and submit these to the Office of the governor. These guidelines should address the handling, disposition, and testing of livestock that have been potentially exposed to Ebola virus, and over a period of time, other similar high consequence agents such as Nipah virus and MERS.

4. During this exercise, gaps in knowledge and policy should be documented and communicated and a prioritized list of policy options and research projects should be developed should be developed and submitted to the Office of the Governor.

5. There is a lack of quarantine facilities available for pets that have been potentially exposed to Ebola virus and other similar high consequence disease agents. The Texas Animal Health Commission, along with other State and local jurisdictions should develop and submit to the Office of the Governor a plan for response, and in this plan, identify additional quarantine facilities for holding and testing animals potentially exposed to Ebola and other high consequence zoonotic disease agents.

6. There is a lack of trained personnel to handle and care for both companion animals and livestock potentially exposed to Ebola virus and other similar high consequence disease agents. DSHS, TAHC, Texas A&M College of Veterinary Medicine and Biomedical Sciences, should work with the Texas Veterinary Medical Association to identify a set of first responders (veterinarians and technical staff) that will be trained, rostered on teams, and deployed in the event of a disease emergency.

7. The Texas Veterinary Board of Medical Examiners should partner with academic institutions and national organizations to develop appropriate educational material and training, and consider opportunities for continuing education. Veterinary training and education should be multidisciplinary and occur with other medical, public health, and emergency management counterparts.

8. The State should collaborate with the Texas Board of Veterinary Medical Examiners and TVMA to implement a mandatory continuing education requirement for veterinarians that includes instruction on personal protection, decontamination, and ongoing risks. The Task Force recommends that this training be developed and implemented by TEEX, which should work in collaboration with the Texas A&M College of Veterinary Medicine and Biomedical Sciences and the TAHC.

9. The state should partner with the Texas Veterinary Medical Association, the Texas Animal Health Commission, academic and national partners to establish an authoritative website for veterinary practitioners to access guidance and policy documents during an emerging and/or zoonotic disease event. This website could include a readily accessible frequently asked question section that would be available to veterinarians and veterinary organizations.

10. Galveston National Laboratory has capability to study high consequence disease agents (like Ebola and Nipah viruses) in companion small animals. The Task Force recommends increased collaboration between GNL and key veterinary resources in Texas, including the Texas A&M College of Veterinary Medicine and Biomedical Science, as well as the Texas Veterinary Diagnostic Laboratory.

11. There is no BSL-3Ag in facility in Texas that can study high consequence zoonotic disease agents like Ebola virus and MERS **in livestock.** Texas should formally study whether the state's needs for work in livestock during an epidemic such as MERS or Nipah virus, can be adequately met with existing facilities, or whether Texas should expand its capability either at the Galveston National Laboratory and/or another highly capable site such as the Texas Veterinary Diagnostic Laboratory / Texas A&M College of Veterinary Medicine.

12. There are currently few facilities in the US that can perform testing on companion animal and livestock samples for Ebola virus and other high consequence zoonotic diseases agents. The state should establish sampling, shipping, and testing procedures or establish a Memorandum of Agreement and partnership with other states or the federal government national veterinary reference laboratories to assure reliable, timely testing for companion animals and livestock during a zoonotic disease emergency.

13. Texas should work through its Congressional delegation and other partners to establish funding to answer practical questions such as the following:

    a) Can companion animals (dogs & cats) transmit Ebola to humans and under what circumstances?

    b) What is the appropriate incubation period to monitor companion animals (dogs and cats) to assure it will not harbor and/or transmit the virus?

    c) Are companion animals potential carriers of the virus and do they shed the virus while remaining asymptomatic?

    d) Are human tests (PCR and serologic) for Ebola virus both sensitive and specific enough for use with animal samples, and if so, what types of samples?

14. The State should conduct exercises that include a zoonotic infectious disease event, in which companion animals and/or livestock are involved in the incubation and potentially transmission of disease to other animals and potentially to humans.

Issue 17

Regarding Future Utilization of the Texas Task Force on Infectious Disease Preparedness and Response by State of Texas Leadership

The Task Force was established by Executive Order of Gov. Perry during an unprecedented U.S. Ebola emergency. The Task Force's purpose was to supply evidence-based assessments and recommendations to state and local leadership during the course of the emergency, and then to be a "clearing house" for lessons learned to make the State safer in the future than it is today.

The Task Force included leading scientists, physicians, public policy, and public health professionals, and also the leadership of relevant state agencies such as DSHS and TCEQ. This structure was unique and effective, in that it combined academic knowledge with the agency leadership and practical experience of prior Texas emergencies.

The Task Force members all volunteered their time, and worked in a highly dedicated and professional manner to achieve the objectives outlined in the Executive Order. Task Force Members were responsive to crises and situations around the clock during the entire course of the operation.

Task Force Members, and their recommendations, were sheltered from political or other influences, in that assessments and recommendations were requested and accepted by the Office of the Governor based entirely on what the Task Force assessed was scientifically appropriate for individual patients as well as public safety, in a highly complex and trying emergency.

Recommendations:

1. The Task Force recommends to the Governor that the Task Force should continue as an advisory body to benefit diverse stakeholders within the State, including the public health, medical, and emergency response communities. It should also continue to be available as needed by the Governor and other State leadership.

2. The Task Force, and its Director and Deputy Director, should remain in an "advisory" role, and not assume operational responsibility which is already adequately distributed and organized under the state's emergency response plan.

3. The Task Force should broaden its potential membership to include experts in other diseases, in addition to Ebola, so that the state can call upon these experts in advance of (and during) the next emergency.

4. The Task Force should be given authority to review the status and implementation of recommendations contained in this report as regular intervals during the upcoming years, and to offer additional recommendations for consideration by the State's leadership.

Appendices

Appendix A

Hospital and Emergency Triage Assessment for Ebola

The Task Force made specific recommendations to DSHS on a triage protocol, which was implemented with minimal modifications and then shared with Texas hospitals on October 23, 2014.

The following two pages are copies of the letter to Texas hospitals from Commissioner David L. Lakey of the DSHS, and the Hospital and Emergency Triage Assessment for Ebola protocol.

Appendix A

Hospital and Emergency Triage Assessment for Ebola (continued)

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DAVID L. LAKEY, M.D.
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October 23, 2014

To: Texas Hospitals

As you are aware, Texas experienced an unprecedented event with the first cases of Ebola in the United States. As with all emergency responses in Texas, we work hard to address the immediate issues and then work to improve our preparedness for the future.

Ebola is a scary disease and the recent events challenged assumptions regarding the management of an Ebola patient and the best way to protect health care workers who care for these patients. The State of Texas is committed to ensuring that our public health and health care systems stand ready for this challenge. We have been working over the summer to ensure that the latest information is in the hands of providers across the state about Ebola. The Governor has also established a task force to specifically look at infectious disease preparedness and response in light of the Ebola outbreak and make recommendations for enhancing our readiness. We welcome this focus on infectious diseases and their potential impact of our state.

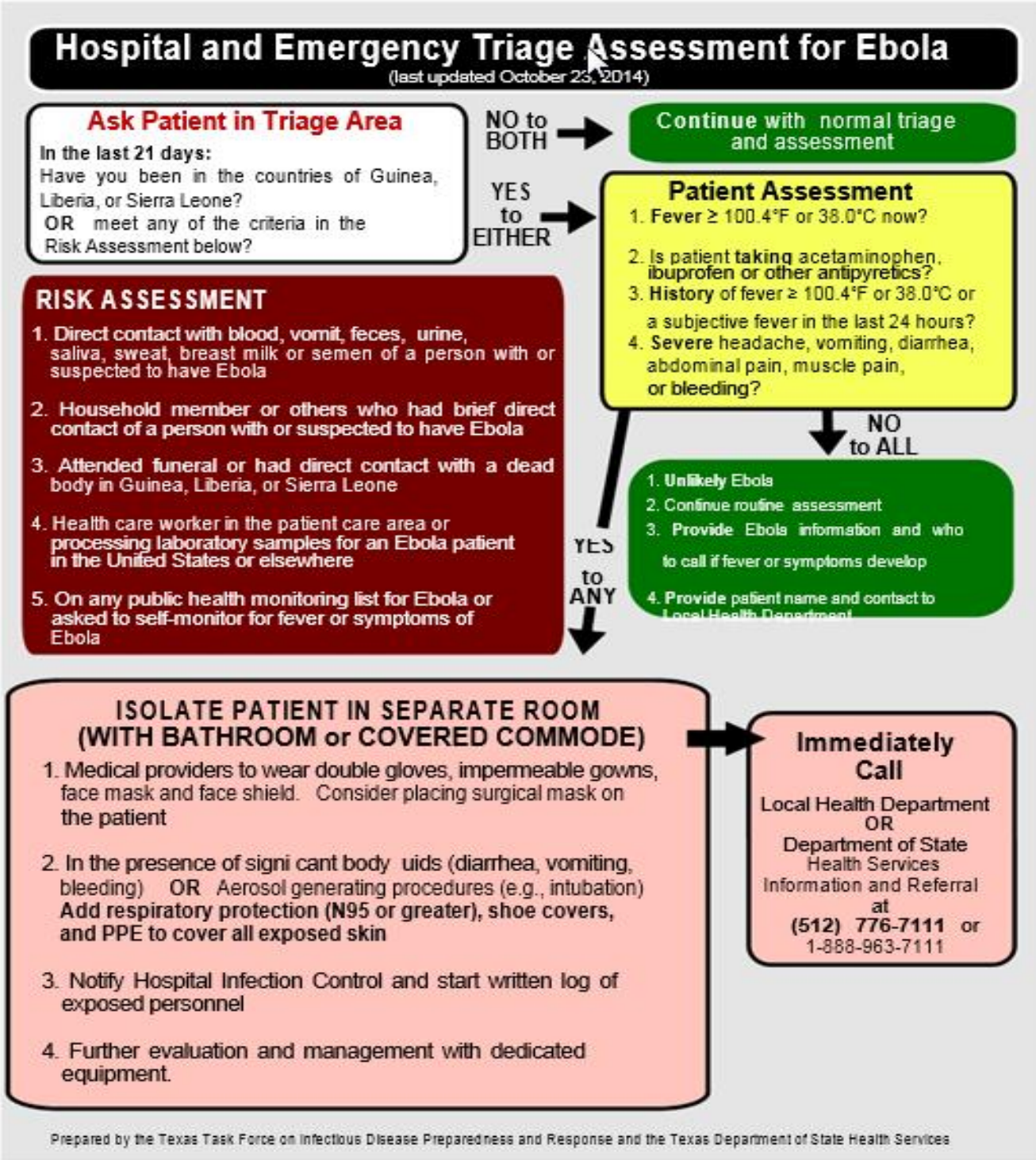
Attached please find a flow chart for Hospital and Emergency Triage Assessment for Ebola. This document represents up-to-date recommendations regarding screening for possible indications of Ebola and actions that should be taken immediately if Ebola is suspected. For inpatient care, you should follow the recently released CDC guidance on caring for Ebola patients. We are currently reviewing the latest revised CDC guidance regarding personal protective equipment as well as planning for management of individuals infected with Ebola in our state. We will continue to make sure that health care providers receive the most up-to-date information regarding Ebola and are available for consultation as needed.

Thank you for your partnership and all you do to serve the health needs of Texans. Sincerely,

David L. Lakey, M.D.
Commissioner

Appendix A

Hospital and Emergency Triage Assessment for Ebola (continued)



APPENDIX B

Letter to Food and Drug Administration
October 17, 2104

TEXAS TASK FORCE
ON INFECTIOUS DISEASE PREPAREDNESS AND RESPONSE

October 17, 2014

Dr. Margaret A. Hamburg
Commissioner
Food and Drug Administration
United States Department of Health and Human Services
White Oak Building One
10903 New Hampshire Avenue, Room 2217
Silver Spring, MD 20993

Dear Dr. Hamburg:

First and foremost, our state and nation are well served by the Food and Drug Administration's (FDA) rapid response under your leadership to manage risk associated with diagnostics and therapeutics associated with the Ebola outbreak. In particular, your ability to execute on the use of emergency processes to quickly approve next steps in these complex medical scenarios has been critical to the patients and their care teams.

I write to you today as the Director of the Texas Task Force on Infectious Disease Preparedness and Response, created by Governor Rick Perry as a result of the recent Ebola case and associated health care worker exposures in Dallas. A primary responsibility of the Texas Task Force is to make recommendations for future action at the state level based on both our findings regarding the actions taken in Texas as well as the clinical experience of Emory University and the University of Nebraska Medical Center in the treatment of patients suffering from Ebola virus disease.

A major issue identified by the Task Force is the general lack of information regarding experimental therapies, particularly readily accessible data on safety, pre-clinical efficacy, drug interactions, and pharmacokinetics in the face of organ failure. We believe that there is a pressing need for accurate and unbiased transmission of information to relevant health care professionals concerning potential therapeutics available for experimental treatment of Ebola.

Therefore, we respectfully request that the FDA actively organize a series of meetings in impacted communities, (e.g., Dallas, Atlanta, Omaha, and now Bethesda). We would like to suggest that these meetings include the sponsors of potentially available Ebola vaccine and

therapeutics candidates. We believe the FDA is in the best position to organize briefings on the scientific and regulatory status of each product. These briefings should include:

- Known clinical data about the safety profile of the experimental therapy from clinical experience, both in Ebola-infected patients and other relevant populations
- Pre-clinical safety data
- Any human treatment experience of the experimental therapy, both in Ebola-positive patients as well as in potentially relevant viral infections
- Pre-clinical efficacy of the experimental therapies related to animal models and therapeutic window
- Additional drugs or monitoring to be taken into account as part of the use of a given therapy
- Current information on availability of the products (including the broad spectrum from timeline for production through to number of recommended courses per patient).

We would ask that the FDA include only the experimental products that are at clinical stage or late pre-clinical stage (for Ebola or another relevant indication). We encourage this series of meetings be videotaped and transcribed for online publication to truly capture and document the findings to be made available for use throughout this and related outbreaks.

In addition, we see this series of highly specialized meetings as an absolutely instrumental means for providing clinicians with a robust understanding of experimental treatment options available, prospectively. We believe this will enhance patient safety by providing frontline clinical responders with the information needed to make real-time decisions about when and how to use any of the potential products to treat patients with Ebola and related diseases. Further, and this is worthy of conversation, we would also seek your input on how to use these meetings to establish and communicate specific protocols to capture valuable data if these products are used under an EIND/Compassionate Use or an EUA during this outbreak of Ebola.

In closing, I want to reiterate my appreciation to you for your dedicated leadership in Washington and in the health care arena. I look forward to the opportunity to work with you to do everything we can to strengthen and elevate the frontline response of our nation's health care providers as we work to confront the current Ebola outbreak.

Brett P. Giroir, M.D.
Director,
Texas Task Force on Infectious Disease Preparedness and Response

APPENDIX C

Public Hearing: Thursday, October 23, 2014

The Texas Task Force on Infectious Disease Preparedness and Response, under the direction of Dr. Brett P. Giroir, held its first public hearing on Thursday, October 23, 2014, at 9:00 a.m., at the Texas State Capitol Auditorium, Room E1.004,

Agenda:

I. Call to Order – Brett P. Giroir, M.D., Task Force Director

II. Roll Call

III. Opening Comments – Dr. Giroir

IV. Medical and Public Health Preparedness and Response to Infectious Disease Threats

Invited Testimony – Panel 1 (Hospitals and Health Systems)

- **Raymond S. Greenberg,** M.D., Ph.D., Executive Vice Chancellor for Health Affairs, The University of Texas System
- **Alexander Eastman, M.D., M.P.H.** Interim Medical Director, UT Southwestern Medical Center Trauma Center, Parkland Memorial Hospital
- **Robert Phillips, M.D., Ph.D., F.A.C.C.,** Executive Vice President and Chief Medical Officer, Houston Methodist
- **William Sutker, M.D.**, Chief of Infectious Disease, Baylor University Medical Center at Dallas
- **Joseph B. McCormick, M.D., M.S.,** Regional Dean, UT Health School of Public Health, Brownsville Regional Campus
- **Ron Cook, D.O.,** Chair, Department of Family and Community Medicine, Texas Tech University Health Sciences Center; Public Health Authority, City of Lubbock

Appendix C

Public Hearing: Thursday, October 23, 2014 (continued)

Invited Testimony – Panel 2 (EMS / Health Authorities)

- **Thomas Schlenker, M.D., M.P.H.,** Director, San Antonio Metropolitan Health District, Texas Association of County and City Health Officers
- **David E. Persse, M.D., F.A.C.E.P**, City of Houston EMS Physician Director/Public Health Authority
- **Eric Epley,** Executive Director, Southwest Texas Regional Advisory Council, Texas Trauma System

Invited Testimony – Panel 3 (Professional Associations)

- **Cindy Zolnierek, Ph.D., R.N**., Executive Director, Texas Nurses Association
- **William "Chip" Riggins, Jr., M.D., M.P.H.,** Texas Medical Association
- **Dave Pearson, M.P.A,** Texas Organization of Rural and Community Hospitals
- **Ted Shaw,** Chief Executive Officer, Texas Hospital Association
- **Ben Raimer, MD, MA, FAAP,** Texas Public Health Association
- **Phillip Johnson, RPh**, Texas Pharmacy Association

Appendix C

Public Hearing: Thursday, October 23, 2014 (continued)

The hearing focused on preparedness for initial identification and isolation of patients - one of seven areas of concentration for the Task Force - and included invited testimony from witnesses representing professions and institutions involved in disease identification and response. Assessments from the hearing helped guide future recommendations regarding preparedness and response to infectious diseases.

The Task Force determined that seven themes emerged from the testimony:

- Responding to infectious disease outbreaks is the new norm, making preparedness for current and future threats a necessity.

- Public health is a multi-disciplinary effort that is not owned by any one agency, profession, or region.

- There is a need for improved, standardized protocols coupled with repeated simulations, training and drills. No matter the protocols, everyone must still operate with the mindset that each situation is a learning environment where protocols can change based on latest information.

- The need exists for improved communications at all levels, including technical, process oriented, and timeliness and accuracy of information to the media and public.

- A review of the roles and responsibilities of the state's lead public health physician in relation to local emergency response authorities. Public health emergencies have unique characteristics that differentiate them from natural disasters.

- Texas must examine opportunities for more self-sufficiency and resiliency in areas ranging from local public health staffing to regional stockpiling of key supplies, such as personal protective equipment.

- Resources and funding will remain an issue, particularly given cuts in the Federal Hospital Preparedness Program, but the immediate focus also needs to be on flexibility to direct dollars where they are needed and the prudent, risk-based application of support that is available.

Appendix C

Public Hearing: Thursday, October 23, 2014 (continued)

Written Testimony and Biographical Sketches

Testimony to the Texas Task Force on Infectious Disease Preparedness and Response

Presented by

Robert A. Phillips, MD, PhD

Executive Vice President and Chief Medical Officer

Houston Methodist

Houston, Texas

October 23, 2014

Director: Dr. Brett P. Giroir, Executive Vice President & CEO, Texas A&M Health Science Center

Executives: Dr. Kyle Janek, Executive Commissioner, Health & Human Services Commission

Dr. David Lakey, Commissioner, Department of State Health Services

Members: Dr. Gerald Parker: vice president, Public Health Preparedness and Response, Texas A&M Health Science Center. Dr. Parker will serve as deputy director of the task force.

Dr. Tammy Beckham: director, Texas Veterinary Medical Diagnostics Laboratory and the Institute for Infectious Animal Diseases, Texas A&M University

Dr. Peter Hotez: founding dean, National School of Tropical Medicine, Baylor College of Medicine; professor, Departments of Pediatrics and Molecular Virology & Microbiology; President, Sabin Vaccine Institute

Dr. Thomas Ksiazek: virologist and an expert in the field of Epidemiology/ecology and laboratory diagnosis of hemorrhagic fevers and arthropod-borne viral diseases, University of Texas Medical Branch Sealy Center for Vaccine Development

Dr. James LeDuc, Ph.D.: director, Galveston National Laboratory; professor of Microbiology and Immunology and director of the Program on Global Health, Institute for Human Infections and Immunity

Dr. Scott Lillibridge: professor of epidemiology and assistant dean, Texas A&M Health Science Center School of Public Health

Dr. Victoria Sutton: Associate Dean for Research and Faculty Development; Director, Center for Biodefense, Law and Public Policy, Texas Tech University School of Law

Richard Hyde: executive director, Texas Commission on Environmental Quality

Tim Irvine: executive director, Texas Department of Housing and Community Affairs

Nim Kidd: chief, Texas Division of Emergency Management

Col. Steve McCraw: executive director, Texas Department of Public Safety

Maj. Gen. John Nichols: Adjutant General of the State of Texas

Lt. Gen. Joseph Weber: executive director, Texas Department of Transportation

Michael Williams: commissioner, Texas Education Agency

Charge: The task force will provide expert, evidence-based assessments, protocols and recommendations related to the current Ebola response, and develop a strategic emergency management plan for incident command teams and their partners at the state and local levels of government.

Testimony:

Overview

On behalf of Houston Methodist health care system, we appreciate the opportunity to testify before the Task Force on Infectious Disease Preparedness and Response to share our observations about how we can better respond to the Ebola outbreak.

Houston is the 4th largest city in the U.S. with approximately 5.5 million people living here. It is home to over 20% of the nation's oil refinery capacity. It is also the nation's 2nd most active port and still expanding. Houston is a key hub for national and international travel and entry into the country. In 2012, Houston surpassed Los Angeles and New York as the most ethnically diverse metropolitan area in the U.S.

Houston Methodist currently has 7 hospitals with nearly 2,000 beds and 4 freestanding Emergency Departments circling the greater Houston area. We employ over 17,000 employees and have over 4,500 physicians. Houston Methodist Hospital is also an academic medical center with a comprehensive residency program.

The Houston Methodist Research Institute is one of the top hospital affiliated research centers in the country. It includes the Center for Molecular and Translational Human Infectious Diseases Research where scientists study human epidemics, antibiotic-resistant germs (MRSA, TB), emerging pathogens and what can be done to control these. Our focus is on translational research with the question for each initiative being "can this be used to treat patients"? In this respect we have much in common with the Department of Defense that starts each project with the statement "This is the problem. How can we solve it?"

Ebola is an aggressive pathogen that causes a highly lethal hemorrhagic fever syndrome, which is devastating entire countries in Africa. But it is only the most recent infectious outbreak in a long history of infectious diseases ranging from the Great Influenza during World War I to AIDS to the recent outbreak of enterovirus that has a reported 698 cases and 5 deaths in 46 states.

All of which brings us to the problem facing our nation: in a global environment with a highly mobile population, how do we safely identify, isolate, and care for patients with infectious diseases; many of which may have no existing vaccine or treatment and which may even be antibiotic resistant.

Education of the Public and the Health Care System

It is imperative that every adult individual be educated about infectious diseases with factual, credible information. People need to be able to act in a responsible manner with regard to their own health and the health of others. This allows them to make appropriate decisions about travel and interactions in largely populated public settings.

Unfortunately, for all of us, the information today on Ebola is not perfect. Until Dallas, each of believed that with appropriate and readily available protective equipment for our workers, we would not transmit this disease. We have all learned much in the past few weeks about how easily Ebola can transmit. It is imperative that the CDC continue to educate with all of the latest and greatest findings so that we can slow the speculation and increase the education.

Currently, much of the information is from reactive sources that do not have objective information or the correct information is not widely disseminated or easily accessed. Credible information will aide in slowly the panic that has gripped the public and the healthcare workers. This is a lesson that we have learned acutely from our organization. The more we communicated centrally with up-to-date information, the calmer our associates became. Despite the fact that we have created a special team that will conduct testing and treating of these patients, we provided the video on appropriately dressing (donning) and undressing (doffing) of personal protective equipment to treat these patients. Within 24-hours, we had over 2,000 views of the video.

Hospital Preparations

Hospitals, such as Houston Methodist develop their policies and procedures through a combination of national sources and internal panels. In the case of Ebola, providers sought guidance from the Centers for Disease Control (CDC) and built policies and procedures from that guidance. The CDC was wonderful in hosting conference calls and posting all known information on their web-site. We all felt prepared until the moment when the Spanish healthcare worker contracted Ebola. It was, at that moment, where providers began to question their preparedness. When a patient arrived in Dallas, preparations were stepped up, policies and procedures were checked and further discussions began. When the healthcare workers contracted Ebola in Dallas, all institutions recognized vulnerabilities of their policies and procedures, their preparedness, and what we must further do to protect our employees, physicians and our patients. For the past few weeks, we have been listening and learning as well as refining our preparedness.

Early Provider Assessment and Response

First, early identification and isolation of Ebola patients is crucial. Patients have multiple access and emergency rooms and not the most likely place for presentation of the patients. Initial hospital policies considered sending all identified patients to the emergency room or doing lab work at the point of entry. As information about Ebola transmission was made available, Houston Methodist system quickly recognized that this placed a great number of employees and patients at risk and it was more appropriate to isolate patients as quickly as possible and get them to providers who are appropriately trained and "donned" with equipment. Houston Methodist has taken the following actions in an attempt to "identify" and "isolate" on the front end of the stay:

1) We have conducted drills in many of our access points and will continue to conduct drills at various intervals to see how quickly staff can identify and isolate patients. In our first large drill at our largest hospital, the patient arriving at the emergency room was identified and isolated within 7 minutes. Drills by our physician organization call center appropriately identified patients, collected phone numbers and transmitted this

information to higher levels at the hospital which could help bring those patients directly to an isolated location. Our community hospitals have also conducted "identify and isolate" drills for these patients and we learn with each drill.

2) Instead of conducting point of care testing at a variety of locations, we have determined that lab work or hands on treatment will only be provided on our main campus. If a patient presents at a physician office, community hospital emergency room, or any other location, they will be identified, isolated and transferred to the main hospital emergency room or main hospital isolation area.
3) Workers at various points have struggled with what care can be provided to a person who may or may not have Ebola. Due to safety concerns for our workers, we have determined that acetaminophen, water, oral electrolyte replacement, anti-nausea medication, and a hazard suit for transfer will be provided and we will move as quickly as we can.
4) Testing, which is conducted initially through lab work, will only be provided after our workers have "donned" appropriate protective gear. This will insure that we place our system at the least risk of transmission. Until a few weeks ago, we believed that the protective equipment we had in all areas of our institution were sufficient and we would conduct point of care testing with the blood to test for malaria, yellow fever, typhoid fever and influenza. With the new information available, we are only allowing workers who are trained in "donning and doffing" protective gear to draw labs.
5) Drills must continue so that processes can be further refined.

<u>Centralization of Teams and Locations for Testing and Treatment</u>

Currently there are four locations with 16 beds in the United States that are specialized to care for patient with Ebola. Texas, with a population of 26 million, has had to transport its two nurses who contracted Ebola to Emory and NIH. Creation of these highly specialized centers requires a long term financial commitment over and above the original cost to build. Highly specialized teams of providers must be trained initially and required to drill frequently; similar to flight hours required to maintain a pilot's license. They must be available even though it is

hoped that pathogenic outbreaks are infrequent. And they must be compensated adequately for the high risk exposure that they are asked to encounter. When not utilized for pathogenic events, bio-containment units can be utilized for other agents such as tuberculosis or influenza.

Given the extremely high risk of accidental exposure while donning and removing suits, Houston Methodist has determined that the best course for employee protection is to develop a small, highly trained team that will practice and perfect the personal protective equipment techniques as well as providing care while wearing the suits. Training a specialized team of nurses, housekeepers, respiratory therapists, and doctors, will provide the highest level of safety for all of our employees. We are also designating a support team that will actively monitor the trained caregivers. We do believe that the state should consider whether this should be even further centralized and agree with the approach that regional centers should be designated which allows for even further isolation and proficiency opportunities.

In addition to the challenges described above, a major safety factor for caregivers conducting testing and treatment is the unknowns and current limitations of existing Personal Protective Equipment (PPE). Although effective for exposures normally encountered in the hospital setting, there exists increased need for heightened protection involving the most virulent pathogens. In addition, most PPE is designed for short term use where nursing staff go in and out of rooms. The strongest suit now available only allows the wearer to be in it for 45 minutes. The next best suit allows duration of wear up to 2 hours but the top of that particular suit draws in air. We have learned that we have to tape the top of the suit to avoid exposure. Each time PPE is removed, a risk of exposure is created. We have also determined that many of the tasks necessary to assess and care for patients cannot be performed while in PPE. A stethoscope cannot be put in your ears to listen. Even if it could, the suits “crackle” so that breath and heart sounds are not audible. We attempted to order the hats (pappers) that we felt would best protect our workers only to find that the company will only ship to hospitals with confirmed Ebola cases due to the limited supply of appropriate equipment. If there is a clear area for R&D, it is in the area of personal protective equipment (PPE). Collaborations

between industries such as health care and NASA could provide new technology for longer term use, less risk of perforation, and increased safety for public health professionals, health care professionals and emergency response personnel.

As stated above, we have created a system of transferring patients from our employed physician group and our community emergency rooms to the main hospital. However, there is great fragmentation in the city of Houston with caregivers. Many urgent care clinics, physician offices, non-affiliated emergency centers and ambulatory surgery centers need to work with larger centers to create a system for isolation and transfer that is similar to the one developed at Houston Methodist. It is of grave concern to us that many of these sites could just send patients to the emergency room without warning which would not allow us to isolate these patients.

Physicians providing care for epidemic outbreaks routinely deliver care in countries without the benefits of the U.S. health care delivery system. This, however, creates a false sense of security that providers delivering care to adults, children, obstetrical patients and patients with chronic diseases or traumatic injuries are trained to deliver care in an epidemic. A team of physicians trained at a site such as the Emory bio-containment unit and that could travel to provider sites in the event of an infectious disease event would be a tremendous assist in rapid response implementation.

Licensing and other regulatory barriers are a major challenge. Hospitals are reluctant or prevented from converting empty units into isolation areas. In the event of a major outbreak, under the current regulatory environment, penalties or closures could occur as emergent circumstances required use of facilities in a manner for which they are not currently licensed. Some form of Emergency Circumstances waiver would expedite the ability of hospitals to set up isolation units. It would also mitigate issues involving assistance from national physician critical response teams that could assist in medical care across state line.

State Support

1. Given the internationally diverse demographic of Houston and its role as an international hub, bio-containment units located in proximity to Houston would provide a base of operations for the state. These facilities could also be used for training and educational sites in conjunction with the Methodist Institute of Technology, Innovation and Education (MITIE), our surgical training site.
2. Research and development support for PPE.
3. Research and development support for rapid diagnostic testing.
4. Regulatory relief in the face of an epidemic.

Summary

The first action of health care providers is to go directly to experts to obtain information. The Centers for Disease Control (CDC) was the data source for many, if not all, hospitals in developing their policies and procedures. The CDC posted guidance, hosted conference calls, and generally responded to requests for information. These resources drove the hospitals' initial preparation of policies and procedures to respond to patients' needs. Certain safety assumptions were made based on the "*known"* best practices. However, CDC and public health officials go to the site of events during or after the onset. Often they operate using theoretical models. It would be useful for hospitals and those practicing medicine in the real world if those officials would come to the frontlines before issuing guidance(s) and protocols. If the CDC is going to recommend a practice they should validate that it is functional. Providers prepared policies utilizing CDC guidance with a false sense of security that those recommendations had been tested, validated, and could be relied upon.

Continuous quality improvement (CQI) and scientific method require testing. Houston Methodist has conducted multiple drills to test for compliance with the CDC recommended policy and procedures. More importantly, we were actively looking to identify gaps and areas for improvement. Staff responded well. The first drill resulted in the patient being identified,

screened and isolated in 7 minutes. Staff also snapped photographs of every person at the site of the drill for follow up as a potential exposure. We learned more from real human behavior – the proficiency needed to get in and out of Personal Protective Equipment (PPE), how patients move within the Emergency Department and interact with providers, how challenging it is to engage each and every patient from the time they cross the hospital threshold, how we also need to identify each and every point of contact of the patient from the entrance to the waiting room to the bathroom, if needed.

Lessons Learned:

1. Intense focus on training for identification and isolation for individuals under investigation for Ebola was a priority. We have developed algorithms for identifying patients that could be at risk for Ebola in all of our environments. . We are in the process of conducting or developing drills at every point of access in our system to train staff on these practices.
2. Centralization and specialization for a PUI was a necessity to protect both patients and staff. Therefore we have made a decision to centralize care of persons under investigation at one of our hospitals, which is currently our academic hospital (HMH> Care teams need repetitive training to achieve the proficiency and skill necessary to prevent contamination during the removal of PPE.
3. Intense focus on PPE. Creation of a training video for proper donning and doffing of personal protective equipment (PPE) that could be quickly disseminated to all employees, and live training sessions for staff designated for care of the patient.
4. For EDs, reduce the zone of initial screening and isolation to as discreet a site as possible such as work stations set up as close as possible to the ED entrance. Phone screening by physicians' offices when patients call to ask for a non-routine appointment.
5. Ongoing testing of the process to look for opportunities for improvement.

Identification

Screening and rapid diagnosis are critical to minimize the number of patient contacts that will occur. CDC guidance regarding the level of fever has been changing. They have been lowering the level of fever that triggers intervention. Evolving standards have increased the challenges of travel screening and timing of patient screening.

Every employee who interfaces with patients should be trained to ask the right questions on initial screening. *For every patient who presents to a facility or a physician's office ask, "Have you travelled to one of the following countries in West Africa - Guinea, Liberia, Sierra Leone, Democratic Republic of Congo, or Nigeria - within the past 30 days or contact with someone who is known or suspected to have Ebola?" If so, immediately ask the following question: "Do you have a fever, severe headache, muscle pain, vomiting, diarrhea, abdominal pain, weakness or unexplained hemorrhage?" If the answer to this is yes, then immediately isolate patient and initiate PUI protocols described below.*

Houston Methodist community hospitals and freestanding Emergency Departments will screen patients upon entering the facilities. If potential exposure to Ebola is identified upon screening, staff will place the patient in contact and droplet isolation and contact the centrally located HM Ebola Response Team. Our designated, highly-trained team of professionals will arrive for subsequent care and transportation to a central care location. The response team will arrive at the patient's location, dress the patient in a hazardous materials suit, and arrange transfer. Our ambulatory service companies have agreed to transport patients to Houston Methodist. 0ur hazardous materials disposal company has also agreed to provide service.

Rapid diagnostic tools could play a crucial role in early intervention and containment. Up until the past week, the diagnostic testing process is delayed because blood samples are collected at the hospitals and transported from Houston to the state public health lab in Austin to the CDC in Atlanta. We have solved this issue by developing testing at Houston Methodist, thereby reducing the risk of transporting specimens and reducing the time to get results from days to hours.

Conclusion

Central to everything we do at Houston Methodist are our ICARE values: integrity, compassion, accountability, respect and excellence. These are ingrained in our culture and drive our determination to provide the best care to our patients. In the past, fear and uncertainty around AIDS created barriers nation-wide between those who provide care and those they cared for. A key message to our employees during this stressful time for patients, families and providers is to keep our values at the forefront of how we treat people who come to us. We will do everything possible to live up to that goal.

Finally, we cannot close without acknowledging the debt that everyone owes to Texas Health Presbyterian for their efforts to care for the first Ebola victim and the lessons that all of us learned through their extraordinarily difficult first-hand experience. As much as we would prefer to think otherwise, the first patient could have walked through the doors of any of our facilities.

Task Force on Infectious Disease Preparedness and Response
Testimony from Baylor Scott and White Health
William L. Sutker, MD

Question 1: What is the role of your institution or organization in assisting education, early identification, or public response to Ebola or other contagious diseases of high consequence?

Baylor Scott & White Health has been active with our outreach to the community as well as our colleagues in healthcare. We have educated our physicians and employees. We have hosted community town halls to answer questions and allay the fears of the public. We have also shared multiple protocols and algorithms addressing issues such as screening, appropriate personal protective equipment, donning and doffing protocols, transfer protocols, etc. with several hospitals in our area that had not yet developed their own. In addition, we have been in contact with our local health departments to coordinate our efforts.

Question 2: What can your organization do to help insure that any additional Ebola patients will be identified on their first symptomatic encounter, receive appropriate isolation and public health notification?

Baylor Scott and White Health has developed a screening tool and algorithm to ensure that any possible Ebola patients will be identified on their first encounter and receive appropriate isolation. The protocol includes a screener asking two initial questions. If the response to those questions suggests a risk of Ebola, the patient is handed a mask and lead to a private area for further screening. The additional screening questions are asked by a trained screener and if the responses still suggest possible Ebola patient, then the infection prevention/control practitioner on call is notified. Next, the local health department is contacted to discuss the case and give further guidance. At all times, screener is wearing appropriate personal protective equipment.

Question 3: What are best practices, including training, exercises or other assessment, which could serve to insure that Ebola patients will be identified at the earliest possible time?

The screening form and algorithm that have been developed by Baylor Scott and White Health helps to identify any possible Ebola patients. The screening form is used at any entry point of the healthcare system, including hospitals, emergency departments, outpatient departments and clinics. Everyone has been trained about what to do in event of a positive screen. The patient will be handed a mask and moved to a private area as described above. If physical contact is necessary, everyone has been trained on the appropriate use of personal protective equipment to be used during encounters with the patient.

Question 4: What could be done to improve information/guidance from federal, state, and local sources about Ebola or other contagious high consequence diseases?

There has been a delay in the dissemination of updated information from federal and state sources. There have been some delays in trying to communicate and get guidance from the local health department about disposition of patients under investigation.

Question 5: Do your members feel there has been sufficient, timely education regarding Ebola and other potentially contagious diseases of high consequence?

We do not feel that there has been sufficient and timely education and guidance regarding Ebola viral disease. The overall response from the Centers for Disease Control and Prevention has been slow. Updated guidance has also been slow. Response of the CDC to the Dallas case was delayed and seemed unorganized. There are opportunities for improvement in communication between CDC, local health departments, and treating organizations.

Question 6: What are the barriers your organization has encountered in preparation for Ebola, influenza pandemics, or other contagious high consequence diseases?

There has been an overall perception that there has been a slow response from governmental healthcare officials and organizations. At times, there seems to be conflicting information. Updates do not occur in a timely fashion. In addition, there have been problems in obtaining supplies necessary to appropriately take care of patients while providing safety for our employees. In particular, there is a short supply of personal protective equipment necessary for safe care of Ebola patients. There was a similar issue in obtaining N 95 masks during the H1 N1 pandemic. Perhaps, there could be a coordinated effort either locally or regionally to help in the distribution of personal protective equipment.

Question 7: Are there any specific actions you would recommend at a local, regional, state, or federal level to improve the overall preparedness and response to infectious diseases?

As stated above, there needs to be an expedited response at both a federal, state, and local level to infectious diseases such as Ebola Viral Disease. There needs to be coordinated communication between local, state, and federal authorities. There needs to be more efficient communication between healthcare practitioners and health care authorities. This would apply to communications about individual cases awaiting disposition at institutions as well as more general updated guidance about how to care for patients with these infectious diseases. Perhaps a command center open 24/7 could be set up to answer questions in real time. A website with daily updates of important information would also be helpful.

Texas Tech Physicians

Office *of* Communications *and* Marketing

Talking Points about Ebola
for Physicians and Staff to Patients
Updated 10/15/14

- Ebola Virus Disease is rare, and the risk of contracting Ebola virus is low.

- Ebola is spread through direct contact with blood and body fluids of an infected person or infected animal or by contact with contaminated objects.

- Early symptoms include sudden onset of fever, intense weakness, muscle pain, headache and sore throat.

- These symptoms are similar to other infections, so unless you have traveled to regions of Western Africa or have been in direct contact with an infected person, you probably do not have Ebola.

- A person who does not show Ebola symptoms is not contagious.

- The recommendation to limit travel is for trips to Western African regions only, including Liberia, Guinea, Sierra Leone and Nigeria.

- Ebola cases are confirmed through laboratory testing, and there is no vaccine or drug to treat Ebola specifically.

- Texas Tech Physicians is screening all patients for travel history. If one of our patients has recently traveled to an affected area, we document that in the patient's medical record, and the doctor will be notified immediately.

TTUHSC and Texas Tech Physicians are following all protocols developed and recommended by the Center for Disease Control (CDC) and state regulatory agencies.

TTUHSC and Texas Tech Physicians are monitoring hourly all changes to recommendations from these agencies to make sure our patients, students and health care staff remain safe and healthy and will continue to update faculty, staff and students.

Texas Tech Physicians infectious disease experts and all medical staff will communicate with local and state agencies and health care institutions in a coordinated effort to provide consultation, care and other resources as available and necessary.

Texas Tech Physicians will continue to provide information for our patients at
www.texastechphysicians.com
Facebook: www.facebook.com/ttuhsc
Twitter: @ttuhscnews

3601 4th Street STOP 6235 | Lubbock, Texas 79410-6235 | T 806.743.2143 ext. 223 | F 806.743.2118

PLEASE NOTIFY

the receptionist immediately if:

1. Within the last month, you have traveled to or lived in an area where Ebola is active

(Guinea, Liberia, Sierra Leone, Nigeria)

-- OR --

2. You have been in contact with anyone who has been diagnosed with Ebola

-- AND --

3. You currently have a fever, severe headache, muscle pain, vomiting or diarrhea, abdominal pain or bleeding.

Texas Tech Physicians
of LUBBOCK

Ebola Virus Disease Screening Algorithm for Texas Tech Physicians Ambulatory Clinics

Patient presents to clinic

PSS asks patient to answer Ebola questions on poster

If patient answers "YES," Nurse is summoned and patient is isolated IMMEDIATELY in an exam room

Nurse escorts patient to room but does NOT enter and places "Do Not Enter" sign on exam room door

Nurse gets Attending Physician and they BOTH don impermeable Personal Protective Equipment (PPE) [gown, gloves, knee high shoe covers, masks, face shield] and enter room to assess patient

If Physician determines High Risk – Physician use cell phone from the room and consult UMC Infectious Disease Physician (806-743-3155, press "0" immediately when phone is answered to avoid the phone tree and get a live person); alternative number: 806-743-3107

If Ebola is ruled out, Doff PPE in exam room and business as usual…

If Infectious Disease Physician recommends hospital admission, call UMC House Supervisor to obtain Ebola Isolation room (MICU-Adults, PICU-Children) Nurse will need to call report to ICU Nurse

Clinic Nurse will call EMS and request Isolation transport for possible Ebola patient directly to UMC ICU

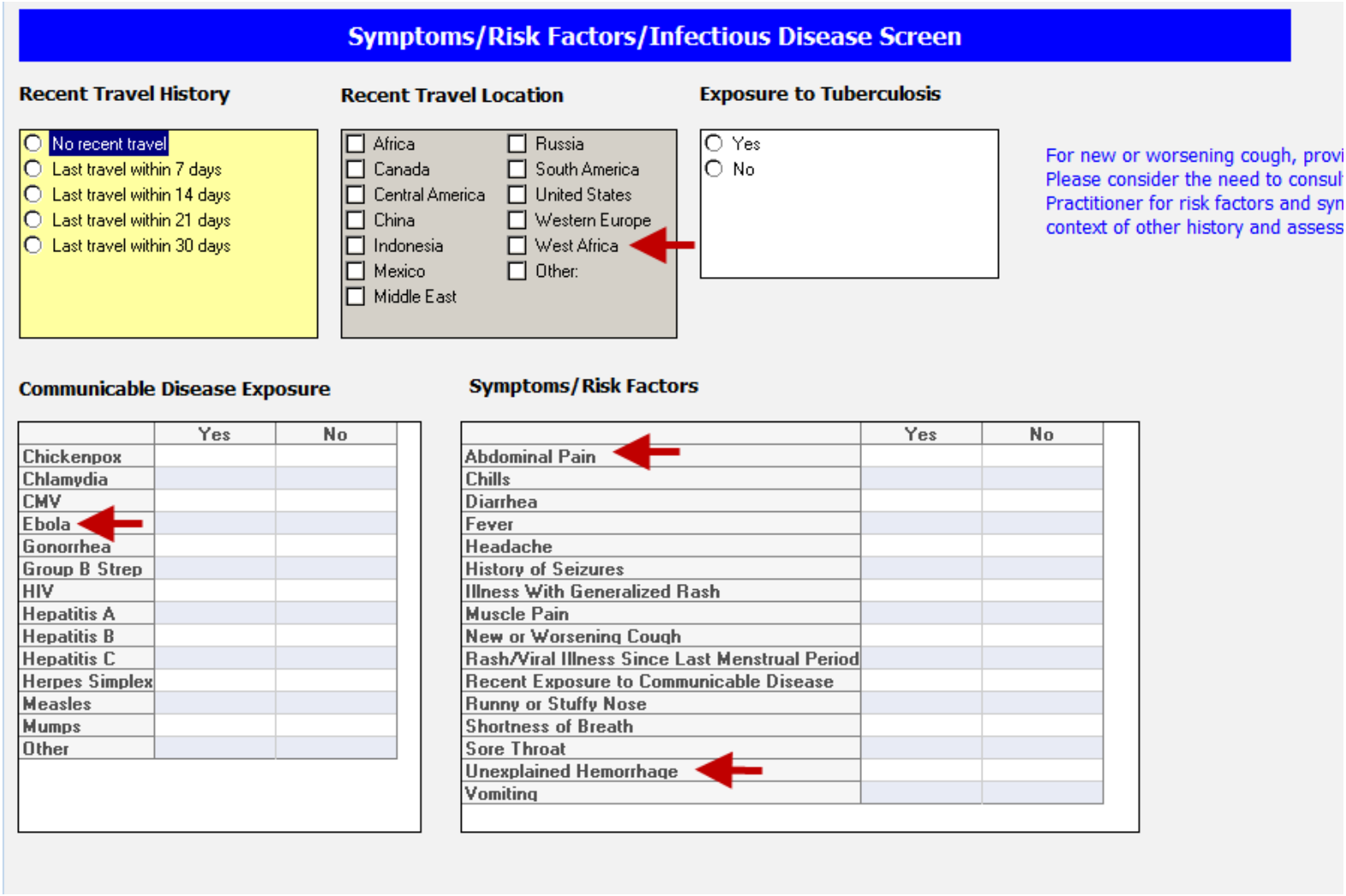
Nurse and physician doff PPE in room prior to exiting room. Wash hands in room after doffing unless patient has vomited or had diarrhea in room

Clinic notifies Health Department of Transfer 806-775-2935 business hours, 806-535-9047 after hours

Close off room; notify Safety Services at 743-2597

*****If patient vomited and/or had diarrhea in room, evacuate that entire area of clinic until room is released by Safety Services.**

Published 10/20/2014


Symptoms/Risk Factors/Infectious Disease Screen
Recent Travel History
No recent travel
Last travel within 7 days
Last travel within 14 days
Last travel within 21 days
Last travel within 30 days
Recent Travel Location
Africa
Canada
Central America
China
Indonesia
Mexico
Middle East
Russia
South America
United States
Western Europe
West Africa
Other:
Exposure to Tuberculosis
Yes
No
For new or worsening cough, provi
Please consider the need to consul
Practitioner for risk factors and sym
context of other history and assess
Communicable Disease Exposure
Yes
No
Chickenpox
Chlamydia
CMV
Ebola
Gonorrhea
Group B Strep
HIV
Hepatitis A
Hepatitis B
Hepatitis C
Herpes Simplex
Measles
Mumps
Other
Symptoms/Risk Factors
Yes
No
Abdominal Pain
Chills
Diarrhea
Fever
Headache
History of Seizures
Illness With Generalized Rash
Muscle Pain
New or Worsening Cough
Rash/Viral Illness Since Last Menstrual Period
Recent Exposure to Communicable Disease
Runny or Stuffy Nose
Shortness of Breath
Sore Throat
Unexplained Hemorrhage
Vomiting

Texas Task Force on Infectious Disease Preparedness and Response

Medical and Public Health Preparedness and Response to Infectious Disease Threats

Invited Testimony – Panel 2 (EMS/Health Authorities)

Thomas Schlenker, M.D., M.P.H., Director, San Antonio Metropolitan Health District, Texas Association of County and City Health Officers

David E. Persse, M.D., F.A.C.E.P, City of Houston EMS Physician Director/Public Health Authority

Eric Epley, Executive Director, Southwest Texas Regional Advisory Council, Texas Trauma System

Testimony for the Governor's Texas Task Force for Infectious Disease

October 23, 2014

Eric Epley, CEM, NREMT-P
Executive Director
Southwest Texas Regional Advisory Council for Trauma
Chair, Governor's EMS/Trauma Advisory Council's Disaster Preparedness Committee
Vice-Chair, DSHS Preparedness Coordinating Council

Mr. Chairman, and respected members of the ID Task Force,

I appreciate the opportunity to provide testimony to the Task Force on the critically important issue of Ebola response in Texas.
I am currently the Executive Director of the Southwest Texas Regional Advisory Council for Trauma, or STRAC, based in San Antonio, TX. I also serve as the Chair of the Governor's EMS/Trauma Advisory Council's Disaster Preparedness Committee, which convenes quarterly with hospital and EMS representatives from across the state. I am also the Vice-Chair of the DSHS Preparedness Coordinating Council, which oversees both the Hospital Preparedness Program and the Public Health Emergency Preparedness grant programs.

Over the last 15 years as an administrator in regional emergency healthcare system development and in my previous careers as a flight paramedic, police officer and rescue technician, I have had many opportunities to deploy to large-scale disaster situations. I was deployed to the Koresh incident in Waco, the Republic of Texas standoff in Ft. Davis, nearly all of the hurricanes in the last 10 years and most recently, the fertilizer explosion in West, TX. Further, I served as the Deputy Operations Section Chief in the San Antonio Regional Medical Operations Center, which was essentially "Ground-Zero" for the H1N1 incident in Texas.

My earnest hope is that this experience will allow me to provide valuable insight to the Task Force regarding the Ebola outbreak.

History of Regional Emergency Healthcare Systems in Texas:
The Southwest Texas Regional Advisory Council, or STRAC, is the Regional Trauma/Emergency Healthcare system in and around San Antonio. Regional Advisory Councils (RACs) were created through Texas legislation to develop, implement and maintain the EMS/Trauma system in each region. The regions were devised based on trauma center catchment areas, allowing trauma surgeons,

emergency medicine physicians, nurses and EMS professionals to meet regularly to improve the care of the trauma patient. While each agency or facility in the system has a job to do, a role to play, the RAC serves as the over-arching system of care that links those disparate and in some cases competitive entities together for the betterment of the patient. Similarly, Public Health entities utilize a different focus and culture to address their day-to-day activities. RACs serve as a vital communications link between acute healthcare and public health.

Why are Systems of Care Important?

The need for system development related to the trauma patient can't be over-emphasized. While a helicopter can provide life-saving care by rapidly transporting the patient to the trauma center, the system must be activated in a timely manner, or precious minutes are lost due to delayed activation. As we now know, these concepts apply to more than just trauma patients. RACs are developing cardiac and stroke systems in each region as well. These critical lessons may have direct application to identification, isolation and treatment of the infectious disease patient.

How does this apply to Ebola or other infectious disease?

Communities with high-functioning emergency healthcare systems are more resilient in times of crisis because they have the communications, funding and other resources in place. This has been proven in hurricanes, the West fertilizer plant explosion and most recently in the activities that RACs have been involved with for Ebola response.

Systems of care must meet regularly to continue to address new and ongoing challenges. By meeting regularly on trauma, cardiac or stroke issues, it creates a formidable group of medical providers that state and local authorities can leverage when needed for crisis.

Over the last 10 years, Regional Advisory Councils (RACs) have played a central role in developing and coordinating disaster preparedness for hospitals and EMS. In general, these preparedness efforts coalesce around 4 themes:

- Competent, well-trained, well-educated clinicians and administrators
- Resources and equipment to be able to provide the proper care
- Clear and effective command and control structure to ensure the medical response is supporting the other components of the disaster
- Clear and timely structured communication systems

Equipping the clinician/responder, then educating and training them is a logical progression toward preparedness. However, clear and effective command and control systems, both inside the hospital or EMS agency, and more importantly outside the hospital are as important, and in certain circumstances more important.

RACs have served as the conduit for the federal government's Hospital Preparedness Program, (HPP) grant program, which has provided funding to hospitals and healthcare coalitions for equipment, programs, training, and exercises since 2002.

The HPP funds have been used for improving medical response to all hazards. Examples of risks that hospitals have prepared for include mass casualty incidents from active shooters, evacuation during hurricanes, tornados, and radiological, chemical and biological incidents.

Specific Texas Task Force on Infectious Disease Preparedness and Response Questions:

1. ***What is the role of your institution or organization in assisting in education, early identification, or public response to Ebola or other contagious diseases of high consequence?***

In August, before any patients had arrived in the U.S., STRAC arranged meetings with leaders from local public health, the regional DSHS office, reps from San Antonio Fire/EMS, Emergency Management and EMS Medical Directors, with the goal of establishing a unified coordination plan if Ebola was identified in our community. This leadership group was the core of the Regional Health and Medical Operations Center (RHMOC) and has been invaluable in providing leadership and guidance to local and regional EMS agencies and hospitals. The group established documents for EMS field screening, lab testing processes, and many other documents to support the clinicians. These were located centrally on the STRAC website and has become the one-stop shop for all regional guidance. Further, the RHMOC Core Group held several conference calls with hospitals and EMS to allow free and open exchange of ideas and concerns related to the guidance or other issues related to Ebola. During H1N1 in 2009, we experienced frustration with guidance documents from CDC that had similar or identical titles but different versions. This led to the establishment of a unique document numbering system within the region for each and every document so that speakers on conference bridges could reference the unique number and allow the attendees to know they had the correct document in front of them. This was a huge timesaver on these critical and time-sensitive calls. The Regional Health and Medical Operations Center (RHMOC) has been briefed to elected officials and is the rally point for health leaders to establish collaborative decisions if an Ebola case comes to our area of Texas. We also organized a joint press briefing with Judge Nelson Wolff, Mayor Ivey Taylor and Chief Medical Officers from the four major health systems, along with other subject matter experts to help address the community's concerns.

My colleagues at other RACs are having great success with similar initiatives with their public health agencies and stakeholders. I encourage the Task Force to reach out and gather their thoughts and experiences directly as appropriate.

Communication difficulties dominate after action reports from disasters in recent history. Having a unified, consensus-building effort among our regional and local public health authorities, in collaboration with hospitals, EMS, and emergency management has been beneficial to the current response and continues to provide a framework for discussion and problem-solving as new issues arise.

2. ***What can your organization to do to help insure that any additional Ebola patients will be identified on their first symptomatic encounter, receive appropriate isolation and public health notification?***

Regional Advisory Councils (RACs) can play a central role in providing cross-communication between and among the hospitals and EMS with public health and emergency management. With the current Ebola response, examples of what RACs have already been doing include:

- Frequent stakeholder conference bridge calls within the region, placing hospital leadership in communication with public health, EMS and emergency management.
- Face to face leadership meetings with public health, emergncy management, EMS and hospital leaders
- Development and distribution of critical procedures and policies including screening, PPE, decontamination, and exposure processes in coopoeration with public health for the Ebola response
- Preparation of the Regional Health and Medical Operations Centers for activation, which brings hospital, EMS, Public Health and emergency management teams together in the Regional Health and Medical Operations Centers,
- To assist with early identification, isolation and public health notification of Ebola or other infectious diseases, RACs have developed strategies to help hospitals develop consistent, comprehensive screening processes that are operationally sound and implementable. While the CDC guidance is extremely valuable and is based in sound scientific methodology, it has limitations created by its need to be applicable across the entire country. Similarly, DSHS has many of the same challenges due to the incredible size and diversity of Texas. The RHMOCs have the regional perspective to apply state and federal guidance based on capability and available resources. Collaboration at the regional level has been successful with trauma, stroke and cardiac protocols on a daily basis but only when local clinicians are involved in constructing the protocols.

3. What are best practices, including training, exercises or other assessments, which could serve to insure that Ebola patients will be identified at the earliest possible time?

For the last several months, I have had the opportunity to observe hospitals and EMS agencies prepare their staffs to accomplish early screening. Improving screening processes, or clinician PPE usage or any of a dozen other items relating to Ebola repsonse has two major factors:

1. Clinical provider behavior and familiarity with PPE and decon equipment
2. Senior leader/organizational behavior.

Changing behavior, especially clinican and physician behavior is challenging but can be accomplished if the risks are clearly communicated. While there has been a great deal of media coverage, and the CDC has done reasonably well in putting out guidance and case definitions, etc, there has been a gap in the amount of actionable information for acute care settings. Also, providing relevant information bolsters knowledge and decreases anxiety to keep skilled clinicians at the bedside, instead of "running from the problem".

Below are best practices, some small and easy to implement, others are longer-term:

Best Practice #1. Utilize operations leaders from EMS or ER's, ICUs, etc to vet and assist with crafting focused communications. The language and phrases used will be written for the target audience and will communicate the message more clearly.

Best Practice #2. Establish a unique document number, essentially a running number that is unrelated to the version number or the date. The document number allows attendees on a conference bridge or other briefing to ensure they have the correct, most up to date document and allows the speaker to communicate with the audience quickly and consisely.

Best Practice #3 Hold stakeholder conference calls at the same time of day and if it's a weekly call, hold it on the same day each week when feasible. The sheer amount of conference calls is staggering and the deconfliction of calendars and workload to attend all of them is difficult at best.

Best Practice #4 Regional Health and Medical Operations Center "core group" meetings. STRAC has worked collaboratively with local and regional public health leaders, epidemiologists, preparedness staff, EMS chiefs, EMS medical directors, hospital representatives and emergency management coordinators to develop the RHMOC Core Group. The Core Group of the RHMOC allows key leaders to talk candidly over secure conference bridges, email and face to face to build consensus between and among the key players in the Ebola crisis.

Best Practice #5 Utilize a local RAC or other entity's website to share documents quickly and easily, a one-stop shop for links to regional, state and national guidance.

4. What could be done to improve information/guidance from federal, state, and local sources about Ebola or other contagious high consequence diseases?

The news media is an invaluable resource for federal state and local authorities to communicate about Ebola or other infectious diseases. A unified message from all participants is critical to educating the public. Contagious diseases are frightening, the comminication about them needs to be realistic and clear. Even though the subjects are complex, the public message must be clearer. Utilizing professional communications teams to help craft the messages pubicly may be worthwhile.

With respect to hospital clinical staff, EMS personnel, and physicians, utilization of more secure communication methods that identify the participants and smaller, more localized calls where questions and answers can be conducted may be more effective.

5. Do your members feel that there is sufficient, timely education regarding Ebola and other potentially contagious diseases of high consequence?

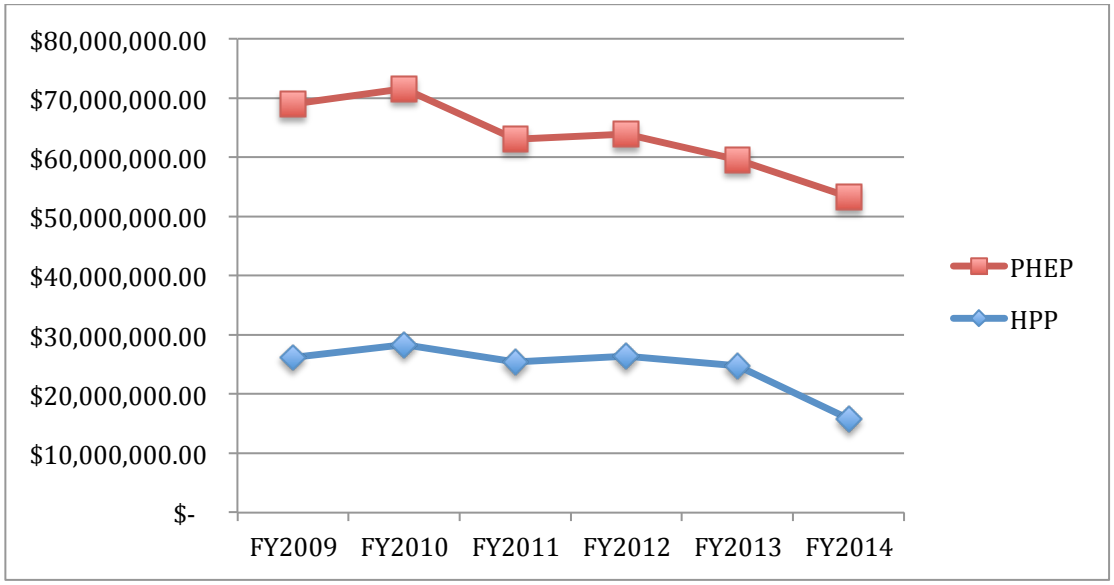
CDC and DSHS have done reasonably well at distributing guidance documents throughout the Ebola crisis. However, application of the guidance in a scenario-driven, real-world format would be more beneficial to the hands-on clinical provider versus simply reading the guidance documents.

Suggestion 1. Establish routine calls, perhaps daily calls with clinicians from the affected facility to review what was learned inside the hospital or EMS agency that is impacted. Providing this daily insight will build confidence in the participants from unaffected facilities as they hear that the patients are indeed managable. Valuable lessons learned can substantially improve preparation and training to streamline processing, isolation and treatment of the Ebola patient.

Suggestion 2. Establish a clinical role at the affected hospital or EMS agency to exclusively facilitiate Suggestion #1.

6. What barriers has your organization encountered in preparation for Ebola, influenza pandemics, or other contagious high-consequence diseases?

The main barrier for preparation for Ebola or other infectious/contagious diseases has been funding, with clear, acheivable objectives. Over the past decade, Hospital Preparedness Program (HPP) funds have been generously supplied by the federal government through HHS HRSA, then Asst. Secretary of Preparedness and Response (ASPR), and now through CDC. These funds are the backbone of the preparedness efforts for both our hospitals and the healthcare coalitions that have formed to provide cohesion among the various components. Both Hospital Preparedness and Public Health Preparedness funds have diminished each year since 2010. Further, there has been no State of Texas funding at all to address hospital and EMS preparedness.



Suggestion #1. Dedicated core funding from the State for the continuation of hospital preparedness and RAC healthcare coalition activities.

7. Are there any specific actions that you would recommend at the local, regional, state, or federal level to improve overall preparedness and response to infectious diseases?

Suggestion #1 Address the state and federal laws that restrict the release of critical information that will protect first responders and healthcare workers, while also ensuring the integrity of private health information for the patients and contacts.

Suggestion #2 Establish regional centers of excellence that can provide comprehensive specialty care of the infectious disease patient. These centers would likely be in or near urban areas that have BSL-4 labs and rapid access to academic subject matter experts in infectious disease.

Suggestion #3 Establish rapid response framework for initial care and transport of suspect patients utilizing the Texas Emergency Medical Task Force (EMTF) program.

Suggestion #4 Strengthen Regional Advisory Councils role in Texas statute as the foundation of the healthcare coalition/regional emergency healthcare system.

I thank the committee for the opportunity to testify on this important issue for Texas and am happy to answer any questions you may have.

Eric Epley, CEM, NREMT-P
Executive Director, Southwest Texas Regional Advisory Council

WRITTEN TESTIMONY
DAVID PERSSE, MD FACEP
PUBLIC HEALTH AUTHORITY
EMS PHYSICIAN DIRECTOR
CITY OF HOUSTON, TEXAS

TEXAS TASK FORCE ON INFECTIOUS DISEASE PREPAREDNESS AND RESPONSE
October, 23, 2014

Director Giroir, and members of the Task Force, thank you for inviting me to speak before you today.

I would first like to especially thank the Task Force for the work you have already done and I applaud the recommendations made to Governor Perry on Friday October 17th. I will say that I support each point and recommendation put forth.

What is the role of your institution or organization in assisting in education, early identification, or public response to Ebola or other contagious diseases of high consequence?

I have been asked to speak before you today not as a representative of an organization, but rather to bring the perspective of an individual who is in the unique position of being professionally involved in two areas of health care that are among those at the forefront of the Ebola response planning and activity. I have been involved in EMS for over 30 years and have been the EMS Physician Director for the City of Houston for the last 18 years. I have also served the City of Houston in the role of the Public Health Authority for the last 10 years.

I would like to start off by addressing what I hope you can facilitate, and that will in turn avert my greatest fear surrounding Ebola virus disease in Texas. I ask that efforts be made and continued throughout our response planning to create an environment that encourages people who fear they may have become infected to come forward and identify themselves. If we allow an atmosphere to develop where the close contacts of the cases even appear to suffer in terms of economics, employment, education, day-to-day comforts or potential for future prosperity we create an atmosphere that will be a disincentive for future cases to come forward. This is one of the biggest contributing factors to the poor control of the situation in West Africa, a distrust of the establishment and fear of coming forward. Should that occur in Texas, it would be a setup for spreading human-to-human infection in the community. It is becoming increasingly recognized that the best chance for patient survival and stopping of disease spread is when cases come forward early. This also reduces the chances that their close contacts become infected and while they may still need to undergo quarantine, if quarantine is comfortable and not detrimental to them, others will be confident in coming forward too. Success in this area will require the Command and Control infrastructure you speak of in your recommendations, but it will also require appropriate funding and logistical support.

What can your organization to do to help insure that any additional Ebola patients will be identified on their first symptomatic encounter, receive appropriate isolation and public health notification?

On the front lines of our response to Ebola Virus Disease are the men and women of Emergency Medical Services, Fire Protection and Law Enforcement. As we move forward I wish for each Task Force member to understand that these professionals are working with the least amount of verified information and in the most uncontrolled environment. It is essential that we support these responders not only with training and equipment, but also setting of realistic and appropriate expectations of their role in the effort to control an outbreak should one occur. To complicate matters, there are already those individuals who are claiming to either have the disease or have been exposed to the disease in order to achieve personal gain. For example, getting out of jail, or perhaps getting someone else detained. Attempts at manipulation by the misguided will serve to accelerate responder fatigue and thereby put our responders at risk. While little can likely be done to stop manipulators, we can seek to support our responders with high quality, timely and accurate training. Local municipalities that employee many of these responders are already often short staffed and financially strapped and cannot afford the manpower hours necessary for live, in-person training of skills such as the proper donning and doffing of high level PPE. In addition I would like to bring particular attention to the dilemma faced by law enforcement officers who may be trying to detain an uncooperative individual who either is a suspect case, or claims to be infected. Officers are to use "appropriate force" in detaining of such an individual. When considering the potential consequences if the individual claims or is suspected of actual Ebola Virus infection, how does one define "appropriate force"?

What are best practices, including training, exercises or other assessments, which could serve to insure that Ebola patients will be identified at the earliest possible time?

Others today have or will comment in greater depth on several of my points so I will now simply reinforce the comments regarding the need to re-establish funding for a robust local public health response system. In particular I support the comments of the Texas Public Health Association and the Texas Association of County and City Health Organizations. Local public health agencies need to be seen in the eyes of the State and local community leaderships as being on par with law enforcement, fire protection and emergency medical services. All need to recognize that it will be the public health professionals that will stop the spread of Ebola through our communities. In an increasingly mobile world, the risk we all face in terms of communicable disease is growing rapidly. Let us not forget about the episode of SARS infections that occurred in Hong Kong and Toronto. Few people have any appreciation for the enormous disaster that was averted by the quick and aggressive public health containment response in those two cities. A best practice would be to see that Public Health is a Public Safety discipline and needs to be prioritized and funded as such.

In order to stop a widespread Ebola epidemic in Texas, it is the local public health response that will first center on contact tracking and issuance of quarantine orders where appropriate. Currently Public Health departments struggle to meet the challenges of food borne and communicable disease outbreaks with their current resources. A best practice for Texas would be to re-establish the vigorous public health infrastructure we once had.

In order for Ebola virus containment efforts to be successful, not only must we have enough well-trained epidemiologists, but the information they seek must be made available to them. Immediate reporting of

suspect cases by health care professionals to the local health department will allow epidemiologists to quickly begin containment procedures. It is imperative that all health care workers in Texas understand the need to report immediately and to know the contact information for their local public health agency. In addition, an awareness that HIPAA laws are not designed to interfere with a public health response, but they are often seen as so iron-clad that many health care professionals refuse to provide necessary information out of fear of prosecution by the federal government. There is a clear lack of understanding about the limits of the HIPAA laws, and the pendulum has simply swung too far in this regard. We cannot afford to have precious time wasted on arguments about what information can be made available to epidemiologists. Perhaps in the mandatory continuing education you propose, some of that time could also be used to inform health care workers when information release is allowable under HIPPA legislation.

The Public Health laws in Texas are in general quite strong and quite appropriate. I completely agree with your recommendation regarding the legislature empowering the Commissioner of DSHS to issue an immediately enforceable control order. I would point out however, that this power should be extended to the Local Public Health Authority as well, and for the exact same reason used to support the Commissioner of having the power. The time delay to have a judge or even the Commissioner issue the control order will make the issuance of the order too late in many situations. I would also point out that the communicable disease containment measures in Texas, specifically Health and Safety Code Chapter 81, need to be protected from those who would use this situation as an opportunity to weaken them.

There will be many more difficult questions in the future, but I applaud the work you have already done and I offer myself as a resource as we in Texas prepare to defend our communities from the Ebola Virus.

Medical and Public Health Preparedness and Response to Infectious Disease Threats

Written testimony provided to the

Texas Task Force on Infectious Disease Preparedness and Response

By the

Texas Association of County & City Health Officials

October 23, 2014

Texas State Capitol

Austin, Texas

My name is Dr. Thomas Schlenker, Director of the San Antonio Metropolitan Health District. I am here representing the Texas Association of County & City Health Officials (TACCHO), an organization of local health departments and public health districts across the state of Texas.

The arrival in Dallas of an Ebola infected individual and Ebola's subsequent spread to contacts highlight, in very dramatic and concrete terms, the need for a coordinated response by a well resourced, trained and "empowered public health system," a point recently made in the Washington Post, by RoseAnn DeMoro, executive director of National Nurses United.(1) Within a system-wide response to infectious disease outbreaks of any kind, the primary role of the local public health department is to protect the wider community by limiting transmission of disease. TACCHO appreciates the opportunity to explain in detail the many essential "field epidemiology" functions local public health performs to limit the spread of disease and the unique position we hold in communities that need to be rapidly but accurately informed and brought together to confront such challenges.

Infectious diseases must, by law, be reported to local public health departments which are obliged to respond. In towns and rural areas without local departments or with departments of limited capacity, reports are made to the Regional divisions of the Department of State Health Services and they respond. The field epidemiology interventions we employ create a powerful albeit largely invisible wall that protects our communities.

Field epidemiology essential functions can be briefly summarized as:

1. **Case investigation**. Armed with knowledge of diseases and disease-specific case definition, local public health verifies, in communication with physicians, hospitals, laboratories, and at times state and federal authorities, that a report is truly a case: a crucial first step. Our experience in San Antonio to date, is that among the hundreds of reports and inquires we have received, there have been no validly suspect cases of Ebola. This is absolutely essential information for providers and the general public.

2. **Contact Identification**. Should a case be validated, local public health would immediately interview the patient, family, friends, school and workmates to establish potential for exposure and to create a complete list of contacts. Communication would be established with all contacts by whatever means necessary. Local public health is skilled at locating and communicating with even the difficult to reach, such as travelers, incarcerated, homeless, mentally ill or those with language or cultural barriers.

3. **Contact Management**. Contacts need to be managed in different ways and for varying lengths of time dependent on the disease. Patients with active tuberculosis need to limit their range of activities and be visited every day by public health field workers to ensure they are taking their medicines. If they are homeless, alternative housing needs to be established, for their own safety and for the safety of the community. Tuberculosis contacts on preventive therapy require weekly or monthly visits and have no restriction on movement other than maintaining communication with the local agency. Measles, whooping cough, and other respiratory diseases are excluded from schools and their contacts are identified. Those that are unvaccinated are excluded from school for a specified number of days. Local public health experience and skill in identification and management of contacts of infectious diseases is unique. Hospitals, clinics, emergency rooms do not do this. It is this experience and skill coming from daily practice that local public health would bring to an Ebola outbreak regardless of where it would occur in Texas.

4. **Control and Prevention.** Local public health has the authority to enact and enforce necessary measures such as closing down housing, schools, or businesses, isolation of infected individuals, quarantine of contacts, and distribution of vaccinations, antimicrobial cleansers and personal protective equipment. In addition, we have much experience in surmounting the legal, logistical and social obstacles that often prove to be barriers to necessary control and prevention.

5. **Collect, validate, organize, store, analyze and communicate data.** This is essential to accurately understand an outbreak, to anticipate how it may further develop, and to appropriately inform and guide health system partners, elected officials and the general public.

6. **Convene and consolidate community response.** Local public health is an effective convener of the public and private entities needed for effective response. We collaborate with many on a daily basis on issues of mutual interest and most likely have long standing, leadership and staff level, working relationships. Local public health is usually seen not as a health care competitor but rather as an honest broker and a provider of services that are beyond the scope or interest of others. Also we are a hub of information and communication for the entire community, experienced in explaining complex subjects without jargon and in ways that can be understood by most. And we are media

savvy. Finally, we are in constant communication within our network of local public health as well as state and federal agencies.

Only local public health is positioned to perform the essential field epidemiology functions outlined above. Preparedness in any given community rests on such local field epidemiology capacity. The best way to be prepared for exotic and terrifying diseases like Ebola is to fund sufficient local public health staff, train and equip them so that they have adequate capacity to respond to the infectious disease of all types that they deal with every day, so that they are truly expert. The concepts and skills used daily against tuberculosis, HIV, hepatitis, syphilis, measles, pertussis and many common diseases are the same as those needed to respond to exotics like Ebola.

At this moment, the greatest deficit in local public health preparedness in Texas is lack of epidemiology staff. Greater local, state and federal funding should be applied in this area. The US national average for public health epidemiologists is 1.2 per 100,000 population. (2) In San Antonio/Bexar County, we have less than half that number. Other communities are likely in the same need. TACCHO urges the Task Force to instigate a state-wide review of local field epidemiological capacity and propose funding to bring Texas up to at least the US National average.

References

1. **US hospitals not prepared for Ebola threat. RoseAnn DeMoro. Washington Post, October 13, 2014.** www.washingtonpost.com/opinions/roseann-demoro-us-hospitals
2. **The Epidemiology Workforce in State and Local Health Departments – United States, 2010. MMWR/March 30, 2012/Vol.61/No.12**

Written Testimony of the Texas Association of Counties
Presented to the Task Force on Infectious Disease Preparedness and Response

October 20, 2014

At the request of Brett P. Giroir, M.D., Director, Texas Task Force on Infectious Disease Preparedness and Response, the Texas Association of Counties offers the following testimony:

The Texas Association of Counties (TAC) appreciates the opportunity to play a role in the work of the Task Force. At this time, the employees of TAC have limited knowledge about preparing for and addressing the threat of contagious diseases of high consequence. However, TAC would be pleased to communicate educational information to our member county officials and to the public, provided such information has been prepared or approved for distribution by reliable governmental sources. TAC has a variety of communication tools available, and can employ e-mail, list-serves, the county.org website and various social media, depending on the intended audience and the nature of the communication. To function effectively in this role as a clearinghouse for information, it would be necessary for the appropriate agencies to provide to TAC the information that needs to be distributed to counties or the public.

TAC will also be available to serve as a resource for county officials who have questions about the legal authority of counties to address contagious diseases of high consequence and to explore ways that counties might work together and work in coordination with both municipalities and the State of Texas.

Beyond this, we are ready to consider any request from the Task Force that would help Texas prepare for or address the threat posed by Ebola and other contagious diseases of high consequence.

We do not intend to present oral testimony at the public hearing, but ask that this written testimony be made a part of the record of the hearing.

Harris Health System
P.O. Box 66769, Houston, Texas 77266-6769

October 20, 2014

Ms. Viveca Martinez
Task Force on Infectious Disease Preparedness and Response
Office of the Governor
1100 San Jacinto
Austin, Texas 78701
viveca.martinez@gov.texas.gov

To the Task Force on Infectious Disease Preparedness and Response:

Through the operation of two of Texas's busiest trauma and emergency centers at Ben Taub and Lyndon B. Johnson hospitals, Harris Health System is a first-responder to communicable diseases present in the community.

Harris Health System adopted a screening protocol for Ebola virus, based on guidance from the U.S. Centers for Disease Control and Prevention in late August 2014. This protocol is in place in our system's hospitals, emergency centers and community-based primary and specialty care clinics.

The screening assessment considers whether the patient has a fever above 101.5 F now or in the past 24 hours, and/or any the following symptoms: headache, muscle pain, nausea or vomiting, diarrhea, abdominal pain or hemorrhage.

If the screening assessment positively identifies these symptoms, we ask the patient three questions:

> In the past 21 days have you:
> 1) Been in the countries of Guinea, Liberia, Sierra Leone or Nigeria?
> 2) Had contact with the blood, or body fluids of a person with suspected or known Ebola Virus Disease?
> 3) Had direct contact with bats, rodents or primates from West Africa? Or have you traveled to any country that is identified as an alert level 2 or higher by the CDC.

Based on the patient's screening findings, we continue triage and patient care as appropriate.

If the patient is a suspected case, the patient will be placed in a separate isolation room, and staff will:

- implement droplet and contact precautions,
- place a surgical mask on the patient, and
- all medical providers entering room will wear appropriate personal protective equipment.

Staff will further question the patient to determine the level of risk.

If the patient is vomiting or in respiratory distress, staff shall consider implementing airborne precautions.

Additionally, the system has put in place staff travel guidelines for anyone traveling to or from known Ebola outbreak locations in western Africa. This too has been in place since late August.

Any workforce member (employee, contractor, volunteer or medical staff) who has returned from Guinea, Liberia, Sierra Leone or Nigeria shall immediately notify their supervisors and Employee Health Services. Clearance by Employee Health is required prior to the individual returning to work.

Based Employee Health's screening results, system employees may be subject to not reporting to work until 21 days after departure from the identified countries.

Based upon a confirmed diagnosis of Ebola, we will adhere to all state issued guidelines for treatment and transfer of patients. Additionally, all medical waste will be transported to the University of Texas Medical Branch (UTMB) in Galveston for incineration and disposal.

Should the Task Force require additional information from our infectious disease experts, please contact Bryan McLeod at 713-566-4399 or by email at: bryan.mcleod@harrishealth.org.

Texas Task Force on Infectious Disease Preparedness and Response

Medical and Public Health Preparedness and Response to Infectious Disease Threats

Invited Testimony – Panel 3 (Professional Associations)

Cindy Zolnierek, Ph.D., R.N., Texas Nurses Association

William "Chip" Riggins, Jr., M.D., M.P.H., Texas Medical Association

Dave Pearson, M.P.A, Texas Organization of Rural and Community Hospitals

Ted Shaw, Texas Hospital Association

Ben Raimer, M.D., M.A., FAAP, Texas Public Health Association

Phillip Johnston, R.Ph., Texas Pharmacy Association

TESTIMONY PREPARED FOR

TEXAS TASK FORCE ON INFECTIOUS DISEASE PREPAREDNESS AND RESPONSE

By

Cindy Zolnierek, PhD, RN
Executive Director
Texas Nurses Association
October 20, 2014

The Texas Nurses Association (TNA), a professional organization of registered nurses throughout Texas, welcomes the opportunity to provide testimony to inform the Task Force as they develop recommendations to ensure preparedness of the State. TNA is the only statewide organization representing nurses from all practice settings and roles. Thank you for inviting our participation.

Protecting Nurses and Other Health Care Workers

Nurses understand principles of infectious disease, its transmission, and related precautions. However, nurses (and other health care providers) need clear and specific standards, protocols, and equipment for protecting themselves at the point of patient presentation, diagnosis and treatment. The Centers for Disease Control (CDC) has just now (10/20/14) posted updated guidelines for the use of Personal Protective Equipment (PPE) by health care workers to protect themselves against Ebola. The lack of timely response to requests to clarify initial CDC guidelines is unfortunate and impedes the implementation of standardized procedures. The two health care workers already infected with Ebola were nurses who trusted they would be protected if they adhered to established protocols adopted from the CDC. TNA offers the following recommendations:

- Precautions and standards for use of personal protective equipment (PPE) should be standardized across systems and organizations. There would be value in statute or regulation that requires some level of standardization across like organizations (hospital emergency departments, emergency transport vehicles, etc.).
- TNA recommends that all health care organizations be required to adopt the new PPE standards adopted by the CDC.

- Availability of PPE in the event of a true epidemic of an infectious disease such as Ebola should be assessed and a contingency plan developed to ensure adequate availability and distribution of supplies.
- Nurses and other health care workers who are expected to potentially care for a patient with infectious disease need training in effective use of PPE, including the opportunity to practice the safe donning and doffing of PPE. Hands on training should be required.
- Nurse Staffing Committees, which all Texas hospitals are required to have, need to consider the potential staffing implications of implementing infectious disease prevention protocols. For example, additional nursing staff may be necessary to meet the new CDC standard that health care workers be "supervised by a trained monitor who watches each worker taking PPE on and off" to ensure that contamination does not occur.

Education

TNA supports the Task Force's intent to improve the education and preparation of licensed health care workers about high consequence infectious disease such as Ebola. Perhaps the most useful education will be that which describes how the most current recommendations for patient evaluation, isolation, and care as well as personal protection have been operationalized by the particular organization. TNA offers the following recommendations related to education:

- The Texas Board of Nursing (TBON) is uniquely positioned to ensure nursing practice promotes patient safety and is best able to determine the most effective manner to ensure that nurses are competent to provide safe patient care. The Texas Nursing Practice Act already provides the TBON with the authority to impose mandatory continuing education regarding Ebola if deemed the best option for ensuring preparedness for nurses. There are approximately 300,000 nurses in Texas and all do not require the same kind of education and training regarding Ebola. We request State Licensing Boards not be required to impose mandatory continuing education on Ebola and instead be directed to determine the best option for ensuring preparedness of licensees.

- Professional associations and health care organizations should collaborate to provide timely education and training regarding the identification and safe management of persons with high consequence infectious diseases.
- Implementation of "disaster drills" that involve entire communities can provide an excellent opportunity for learning what is and isn't working from a systemic perspective when responding to an infectious disease threat. Such exercises also identify learning needs across communities.
- The emergence of Ebola in a local hospital caused the displacement of numerous students from their clinical learning experiences. Schools of nursing and health care organizations should work together on contingency plans for alternative options for students.
- It is important that the public receive accurate and reliable information. Responses from the state need to be evidence-based, e.g. presence in a room or airplane with someone who is asymptomatic and later diagnosed with Ebola does not constitute "exposure" and does not require quarantine. When such an individual is inappropriately quarantined, the public doubts what they have been told regarding transmission.

Patient Care Management

Nurses are on the front line and involved at multiple points and levels of care (community, school, primary, urgent/emergency, long term, etc.); if a person with infectious disease presents, a nurse will be involved. Nurses understand systems of care and the interfacing of health care providers and organizations (e.g. patient handoffs between providers, organizations, and levels of care; patient throughput in systems of care). Nurses interact with all health care providers and support staff – from administrators, physicians, pharmacists, and medical technologists to environmental services staff, unlicensed assistive personnel and emergency transport staff. Further, nurses routinely interact with and provide teaching to families and friends of patients. Therefore nurses must be involved in every effort at every level to address the challenges identified by the emergence of Ebola in this state. TNA offers the following recommendations:

- Triage processes need to be re-evaluated and revised to ensure that patients with potential for Ebola are identified as soon as possible after their presentation to the health care provider (triage nurse, primary care clinic, etc.). Organizations who utilize information systems with clinical decision support capabilities need to insure decision trees within the system are updated to ensure at risk patients will be triggered based on the most current screening recommendations.
- The public is best served when we exploit every opportunity we have for learning – when things go well and when they go wrong. A Culture of Safety supports open sharing and dialogue about events to enable such learning and improvement in care processes. Texas should evaluate systems that permit information sharing between organizations.
- Nurses should be encouraged to raise their concerns about care practices at the point of care where issues can be immediately addressed. Organizations should consider and respond to concerns raised and ensure policies and practices are in place to protect nurses who speak up from retaliation.

The Texas Nurses Association (TNA) applauds the Task Force's efforts to address the state's preparedness to respond effectively to infectious disease threats and protect the public. Because nurses will be directly involved in the care of any person presenting with infectious disease, nurses need to be involved in preparedness planning to help ensure an adequate response. TNA appreciates the opportunity to provide these comments and looks forward to continued participation in the statewide efforts to promote public safety.

TEXAS MEDICAL ASSOCIATION

Physicians Caring for Texans

Texas Task Force on Infectious Disease, Preparedness, and Response
Oct. 23, 2014
W. S. "Chip" Riggins Jr., MD, MPH, FAAFP, FACPM

Good afternoon, Chair Giroir and members of the task force. My name is Dr. Chip Riggins, and I serve as the local health authority and executive director for the Williamson County and Cities Health District. I am board certified in family medicine, public health/general preventive medicine, and aerospace medicine. I'm also a member of the Texas Medical Association's (TMA's) Council on Science and Public Health and chair of the Texas Department of State Health Services (DSHS) Preparedness Coordinating Council. It is a pleasure to be here today representing the more than 47,000 physician and medical student members of the Texas Medical Association.

My comments today will include concerns TMA previously has raised regarding infectious disease prevention and the need for a stronger collaboration between the medical community and local and state public health systems.

TMA recognizes its role as a trusted voice in health matters, both to our membership and to the public. As we have done during previous infectious disease threats, TMA has moved rapidly to develop educational materials on Ebola, working closely with our physician experts on TMA's committees and councils including public health and infectious disease physicians across the state. We have disseminated materials to our members and the public, and organized opportunities for physicians to receive the latest updates on the Ebola situation.

TMA was communicating on the subject of Ebola as early as April and disseminated the first news item about Ebola from the Centers for Disease Control and Prevention to our members on Aug. 1. Following that, TMA:

- Convened a team of physician subject-matter experts to respond to media requests for information. TMA and the Dallas County Medical Society handled hundreds of media inquiries from around the world.
- Collated and distributed materials about Ebola through a range of media: daily headlines that highlight top news items, TMA *Action* newsletter stories, news releases (attached), and blog posts on MeAndMyDoctor.com.
- Hosted conference calls and call-in sessions, including a Tele-Town Hall meeting in conjunction with the Texas Nurses Association (TNA) for all TMA and TNA members on Oct. 20, 2014.
- Disseminated public health alerts, news releases, and other information from DSHS.
- Remained in constant contact with DSHS and local public health authorities for relevant updates.

Professional education regarding Ebola and other potentially contagious diseases

TMA is fully committed to its role in providing professional education for physicians in Texas. We seek to proactively meet the statewide need for focused physician education and communication resources for physicians to use in educating their staff and patients and the public. TMA sponsors extensive continuing education programming for physicians including programs on infectious disease and on public health issues.

TMA has been represented on the DSHS Preparedness Coordinating Council and other select committees and taskforces. We continue to participate in preparedness planning, bringing the perspective of our membership and relaying back to our organizations ways we can contribute to Annex H, the state's Health and Medical Services plan.

In 2009, TMA organized the Texas Public Health Coalition, which is now made up of 30 major health organizations in the state and is supported by all of the state's schools of public health and MD Anderson Cancer Center. This coalition already had turned its attention to emerging diseases over the past year and half. In midsummer, the coalition had scheduled a presentation on Ebola and other emerging diseases for state legislative offices. Unfortunately, the escalation of that situation necessitated a delay until later in the year.

Barriers encountered in preparation for Ebola, influenza pandemics, or other contagious high-consequence diseases

Physicians have identified several issues necessary to address in planning for management and control of infectious diseases, including the needs of private-practice, community physicians.

- Physicians are on the front lines of identifying infectious diseases, so they need to be able to identify and contact quickly their local public health contacts — their local public health department or authority. Many physicians cannot readily find this information. Physicians in some counties have no idea if there is a local health authority or if that responsibility lies with the Regional Director of DSHS. We have worked with DSHS to provide that information so physicians can find it more readily.
- Physicians in nonhospital settings do not benefit from grant funds for planning, equipping, and practicing their responses to disaster, but they also need guidance. Physicians in all practice settings need to be able to screen, identify, and refer patients during an outbreak. The state needs to reinvest in tools, guidelines, and tool kits to help physician practices be most effective in handling communicable diseases.
- Physicians practicing in the community also must know about the appropriate personal protective equipment (PPE) and other resources they need to protect themselves, their staff, and their patients. Physicians need to know where they can purchase the exact required materials as guidelines change. The cost of basic PPE can be significant for physician offices; and as recommendations and protocols change, this cost burden escalates.

Actions to improve overall preparedness and response to infectious diseases

We recommend several items for your consideration. We believe that improving overall preparedness involves a combination of trained leaders, informed planning, and a stronger communication system. We need to ensure Texas does in fact have a uniformly strong public health defense. This includes having physicians trained in public health and prevention medicine and

epidemiologists to support disease surveillance for every county and the state. The shortage in Texas of primary care physicians and those trained in prevention-related specialties is well documented. As Texas addresses the gap in critically needed graduate medical education, these specialties should be included among the top of priorities for new state investment.

Other recommendations:

- Address the need for regional and local health departments to be capable of receiving automated disease reporting and syndromic surveillance data from physicians, clinics, and hospitals via the health information exchanges.
- Ensure improvements to the Public Health Information Network/Health Alert Network to ensure timely delivery of urgent communication and targeted outreach to physicians. With the support of TMA, we believe the state should and could develop a "best practice" communication process that prioritizes the most critical public health messages such as those required by the current situation.

Task force recommendations

We thank the members of the task force for their expertise and preparing initial recommendations and concur with:

- Designation of specific hospitals as Ebola treatment centers, including establishing The University of Texas Medical Branch as the first such "Center of Excellence," provided that such designations do not preclude improving the health care system's statewide capacity to safely receive and diagnose all communicable diseases.
- Statutory changes to improve the enforceability of public health disease control orders by state and local health authorities.

We pledge to work with other organizations to reach out and establish regular dialogue with and education for the news media in regard to public health response in Texas. When Texas is worried, it is our patients who are worried, and their health care suffers. Throughout the current crisis, we have focused our public information on providing easy-to-understand, science-based materials that can help the public better understand their risks and how to mitigate them. TMA would welcome a public dialogue that focuses on preventing unnecessary and unfounded fears.

We are developing additional recommendations that we would like to propose for your consideration and would appreciate the opportunity to present to the task force in the future. Our members work in all aspects of health care, from direct patient care in private offices, to community health, to positions in health care facilities. We thank you for taking on the charge of improving Texas' ability to respond to a significant infectious disease like Ebola.

We also warn against unfounded responses to this crisis and actions that place new burdens on physicians. Government must not legislate the practice of medicine. The members of this committee, as much as anyone, will understand that science and practices are always evolving.

Ebola has reminded us all of the human element involved in our public health and health care systems. No system is above the need for continuous improvement, and we praise you for your commitment to improving our public health defense system. Despite apparent shortcomings in systems, thousands of physicians and other health care team members are working heroically

alongside our public health practitioners and are on the front lines of preventing and stopping this disease as well as other serious and much more common illnesses. We thank you for your service, and we stand ready to work collaboratively with this task force.

What if Someone Walks Into My Office With Ebola?

How do I protect my patients and staff if someone presents with symptoms of Ebola and similar infections?

Before the unexpected event happens — whether it's a possible Ebola patient or someone with another dangerous infectious disease coming to your office — physicians in the outpatient setting should be aware of the recommendations for personal protective equipment and environmental infection control measures in ambulatory settings. The TMA Committee on Infectious Diseases urges you to study that document and make sure you are prepared.

After that, protecting yourself, your staff, and your patients from Ebola starts with your telephone. Train your office staff to ask each person who calls your office for an appointment if he or she has symptoms of a febrile illness (fever, cough, nausea, vomiting, diarrhea, etc.).

Per the U.S. Centers for Disease Control and Prevention (CDC), if a patient reports a fever, staff should next ask about travel history in the past 30 days.

If the patient's travel history includes any of the following countries:

- West Africa in the past 21 days (give the caller the specific date). This includes Guinea, Liberia, and Sierra Leone. These patients are in an Ebola risk group.
- Countries in or near the Arabian Peninsula in the past 14 days. This includes Bahrain, Iraq, Iran, Israel, the West Bank and Gaza, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, the United Arab Emirates (UAE), and Yemen. These patients should be evaluated for Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Infection.

For potentially infected patients, the emergency department (ED) is the proper place for their evaluation.

Immediately contact the ED about the patient and to determine how the department wants the patient to travel to and enter the facility. If the patient is self-transporting, ask where the patient should park.

Call the patient back with specific instructions regarding how to get to and enter the ED and where to park (if applicable). It is important that the patient not mingle with other waiting patients.

If a febrile patient has already presented in your office, have your staff obtain a travel and exposure history. If Ebola or MERS-CoV is possible:

1. Immediately isolate the patient as best as you can.
2. If you have a mask, have the patient put it on.
3. Have the patient perform hand hygiene with an alcohol-based product.
4. Have all staff in the room or in contact with the patient use gloves, water-resistant (impermeable) gowns, and a mask, and goggles or face shield, if available.
   (CDC recommendations for personal protective equipment in a health care setting)
5. Assess the patient's travel and disease history and exposure history.
6. Perform a limited assessment without drawing a blood specimen.

If you feel the patient might have either Ebola or MERS-CoV:

- Call the ED about the patient and for instructions about entering the ED and parking.
- Make a list with contact information of everyone in the office (staff, patients, etc.), and notify them of their potential exposure.

Immediately contact your local health department or regional health office and the DSHS infectious disease unit at (800) 252-8239 for further instructions.

Oct. 16, 2014

NOTE: This information, which is consistent with CDC guidelines that exist on the topic, was compiled from various multi-

CDC Issues Ebola Virus Advisory

Recent cases of Ebola virus disease (EVD) underscore the potential for travel-associated spread of the disease and the risks of EVD to health care workers, according to the Centers for Disease Control and Prevention (CDC), which issued a health advisory July 28.

Nigerian health authorities confirmed a diagnosis of EVD in a patient who died on Friday in a hospital in Lagos, Nigeria, after traveling from Liberia on July 20, 2014. The report marks the first Ebola case in Nigeria linked to the current outbreak in the West African countries of Guinea, Sierra Leone, and Liberia. Health authorities also reported two U.S. citizens working in a hospital in Monrovia, Liberia, have confirmed Ebola virus infection.

CDC is working with the World Health Organization (WHO), the ministries of health of Guinea, Liberia, and Sierra Leone, and other international organizations in response to an outbreak of EVD in West Africa, which was first reported in late March. As of July 23, according to WHO, 1,201 cases and 672 deaths (case fatality, 55 percent to 60 percent) had been reported in Guinea, Liberia, and Sierra Leone. This is the largest outbreak of EVD ever documented and the first recorded in West Africa.

According to CDC, EVD is characterized by sudden onset of fever and malaise, accompanied by other nonspecific signs and symptoms, such as myalgia, headache, vomiting, and diarrhea. Patients with severe forms of the disease may develop multiorgan dysfunction, including hepatic damage, renal failure, and central nervous system involvement, leading to shock and death.

EVD poses little risk to the U.S. general population at this time. However, CDC advises U.S. health care workers to be alert for signs and symptoms of EVD in patients with compatible illness who have a recent (within 21 days) travel history to countries where the outbreak is occurring, and should consider isolation of those patients meeting these criteria, pending diagnostic testing.

Visit the CDC website for more information on EVD and for interim guidance on EVD for health care workers.

Action, Aug. 1, 2014

Published: 10/15/2014 02:38:49 PM

TMA Ebola Virus Resource Center

The U.S. Centers for Disease Control and Prevention (CDC), Texas Department of State Health Services (DSHS), U.S. Department of Health and Human Services (HHS), and Dallas County Health and Human Services have issued numerous bulletins, guidelines, and other materials to help physicians and health care workers respond to the Ebola outbreak. We organize them below for your ease of use.

If you need help immediately:

- DSHS Infectious Disease Unit: (800) 252-8239
- DSHS Health Service Regions, Regional Medical Directors

Ebola virus information for physicians' offices

- What If Someone Walks Into My Office With Ebola? (TMA)
- Ebola Preparedness Considerations for Outpatient/Ambulatory Care Settings (CDC)

Ebola virus information for hospitals and first responders

- What should and should NOT be done for a patient under investigation for Ebola? (New from CDC)
- Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus (CDC)
- Detailed Hospital Checklist for Ebola Preparedness (CDC)
- Interim Guidance: Emergency Medical Services (EMS) Systems & 9-1-1 Public Safety Answering Points (PSAPs): Management of Patients in the United States (CDC)
- Ebola Screening Criteria Template for EMS (CDC)
- Detailed EMS Checklist for Ebola Preparedness (CDC)

Infection prevention information

- Guide to Infection Prevention for Outpatient Settings: Minimum Expectations for Safe Care (CDC)
- Infection Prevention and Control Recommendations for Hospitalized Patients with Known or Suspected Ebola Virus Disease in U.S. Hospitals (CDC)
- TMA Hot Topics Bibliography: Infection Control in the Outpatient Setting
- Physicians and other health professionals can access a recording of a webinar hosted by the HHS assistant secretary for preparedness and CDC on Ebola preparedness for the U.S. health care system. The webinar focuses on the Detailed Hospital Checklist for Ebola Preparedness, which highlights the activities all hospitals can take to prepare for the possibility of a patient exposed to Ebola arriving for medical care. CDC says hospital emergency managers, infection control officers, hospital leaders, and clinical staff will find the information particularly valuable. The checklist provides practical and specific suggestions to ensure hospitals can detect possible Ebola cases, protect their employees, and respond appropriately.

Additional Ebola Virus Guidance

Recent cases of Ebola virus disease (EVD) underscore the potential for travel-associated spread of the disease and the risks of EVD to health care workers, according to the Centers for Disease Control and Prevention (CDC), which issued a health advisory July 28.

Nigerian health authorities confirmed a diagnosis of EVD in a patient who died in a hospital in Lagos, Nigeria, after traveling from Liberia on July 20. The report marks the first Ebola case in Nigeria linked to the outbreak in the West African countries of Guinea, Sierra Leone, and Liberia. Health authorities also reported two U.S. citizens working in a hospital in Monrovia, Liberia (including one Texas physician), have confirmed Ebola virus infection.

CDC says that while the possibility of infected people entering the United States remains low, U.S. health care workers should consider EVD in the differential diagnosis of febrile illness, with compatible symptoms, in any person with recent (within 21 days) travel history in the affected countries and consider isolation of those patients meeting these criteria, pending diagnostic testing.

Visit the CDC website for more information on EVD and for interim guidance on EVD for health care workers.

Action, Aug. 15, 2014

Updated Oct. 16, 2014

Published: 10/16/2014 03:01:24 PM

What Physicians Need to Know About Ebola in Dallas

On Oct. 8, Thomas Eric Duncan, the first known person to develop Ebola in the United States, died at Texas Health Presbyterian Hospital in Dallas. Following the Sept. 30 announcement of his Ebola diagnosis, national, state, and local public health officials identified and began twice-a-day monitoring of 10 definite contacts and 38 possible contacts. So far, there have been no reports that any of those people have shown signs of the illness.

Resources for physicians:

- CDC health advisory for evaluating patients for Ebola
- "What is Ebola?" handout for your patients.
- Dallas County Health and Human Services' guidance on Ebola.
- CDC Ebola information for health care workers
- CDC Infection Prevention and Control Recommendations for Hospitalized Patients with Known or Suspected Ebola Virus Disease in U.S. Hospitals
- CDC Checklist for Patients Being Evaluated for Ebola in the U.S.
- Open Letter to All U.S. Health Care Professionals from Dr. Nicole Lurie, the assistant secretary for preparedness and response
- CDC Evaluating Returned Travelers for Ebola
- CDC Questions and Answers about Ebola
- CDC: What is Contact Tracing?
- CDC (via NPR): How Contagious is Ebola?
- Webinar on demand: Ebola Preparedness for the U.S. Healthcare System (from U.S. Department of Health and Human Services)
- *New England Journal of Medicine's* Ebola Outbreak page

Texas Department of State Health Services (DSHS) Commissioner David Lakey, MD, released this statement about Mr. Duncan's passing:

“The past week has been an enormous test of our health system, but for one family it has been far more personal. Today they lost a dear member of their family. They have our sincere condolences, and we are keeping them in our thoughts. The doctors, nurses and staff at Presbyterian provided excellent and compassionate care, but Ebola is a disease that attacks the body in many ways. We’ll continue every effort to contain the spread of the virus and protect people from this threat.”

Early symptoms of Ebola include sudden fever, fatigue, and headache. Symptoms may appear anywhere from two to 21 days after exposure.

DSHS encourages health care professionals to ask patients about recent travel and consider Ebola in patients with fever and a history of travel to Sierra Leone, Guinea, Liberia, and some parts of Nigeria within 21 days of the onset of symptoms. CDC says there is no risk of transmission from patients who have recovered from Ebola or from those who have been exposed to the virus but are not yet sick. Visit the CDC website for more information about the disease.

"Ebola is a scary disease because of the severity of the illness that it causes," Dr. Frieden said. "We're stopping it in its tracks in this country."

In an open letter to Texans, Dr. Lakey added, "No response to an emergency situation is perfect, and there have been challenges. But this tried and true process is working in Dallas, too. The patient is getting excellent care in isolation, and we’re identifying everyone at risk of possible infection from exposure to this single case of Ebola to ensure no other Texans are exposed."

Action, Oct. 1, 2014
Updated Oct. 6, 2014
Published: 10/16/2014 05:03:00 PM

Feds Enact Tougher Standards as Nurses Contract Ebola

The U.S. Centers for Disease Control and Prevention (CDC) is strengthening safety standards now that two Dallas health care workers have tested positive for the Ebola virus.

(UPDATE: CDC and Frontier Airlines Announce Passenger Notification Underway.)

"The existence of the first case of Ebola spread within the U.S. changes some things and it doesn't change other things," CDC Director Tom Frieden, MD, said during an Oct. 13 media briefing. "It doesn't change the fact that we know how Ebola spreads. It doesn't change the fact that it's possible to take care of Ebola safely. But it does change substantially how we approach it. We have to rethink the way we address Ebola infection control, because even a single infection is unacceptable."

The three changes Dr. Frieden announced on Oct. 14 are:

1. A manager to oversee infection control "every hour of the day."
2. More training for health care workers — "ongoing, refresher, repeat training, including by two nurses from Emory who cared for Ebola patients."
3. A limit on the number of staff providing care directly to patients with Ebola "so that they can become more familiar and more systematic in how they put on and take off protective equipment and they can become more comfortable in a healthy way with providing care in the isolation unit."

"We knew a second case could be a reality, and we've been preparing for this possibility," Texas Department of State Health Services (DSHS) Commissioner David Lakey, MD, said. "We are broadening our team in Dallas and working with extreme diligence to prevent further spread."

If you need help immediately:

- DSHS Infectious Disease Unit: (800) 252-8239
- DSHS Health Service Regions, Regional Medical Directors

The U.S. Centers for Disease Control and Prevention (CDC), Texas Department of State Health Services (DSHS), U.S. Department of Health and Human Services (HHS), and Dallas County Health and Human Services have issued numerous bulletins, guidelines, and other materials to help physicians and health care workers respond to the Ebola outbreak. We have organize them for your ease of use.

Health officials have interviewed the two workers at Texas Health Presbyterian Hospital in Dallas and are identifying any contacts or potential exposures, according to DSHS. People who had contact with them after symptoms emerged will be monitored based on the nature of their interactions and their potential exposure to the virus.

A total of 76 people at the hospital might have had exposure to the initial patient, Thomas Eric Duncan, and all of them are being monitored for fever and other symptoms daily, Dr. Frieden said.

On Oct., 8, Mr. Duncan, the first known person to develop Ebola in the United States, died at Presbyterian Hospital. Dr. Lakey released this statement about Mr. Duncan's passing:

"The past week has been an enormous test of our health system, but for one family it has been far more personal. They lost a dear member of their family. They have our sincere condolences, and we are keeping them in our thoughts. The doctors, nurses and staff at Presbyterian provided excellent and compassionate care, but Ebola is a disease that attacks the body in many ways. We'll continue every effort to contain the spread of the virus and protect people from this threat."

Dallas Health and Human Resources, CDC, and DSHS staff have monitored all of Mr. Duncan's known community contacts daily. As of Oct. 13, none of them had developed a fever or shown other signs of the disease.

Visit the CDC Ebola website and the TMA website for the most updated information on the Ebola response.

Action, Oct. 15, 2014

Published: 10/16/2014 05:55:03 PM

Protect Yourself From the Ebola Virus

Remember: *You can only get Ebola from* ***direct contact*** *with a person who has symptoms*

Signs and Symptoms

Symptoms appear 2 to 21 days after exposure and include:

- ✔ Fever greater than 100.4°F
- ✔ Headache
- ✔ Muscle pain
- ✔ Weakness
- ✔ Diarrhea, sometimes bloody
- ✔ Vomiting, sometimes bloody
- ✔ Stomach pain
- ✔ Unexplained bleeding or bruising

If You Have Symptoms

- ✔ Stay in place to minimize contact with others.
- ✔ Contact your doctor for advice.
- ✔ **Call your doctor immediately** if you have symptoms AND have been in **direct contact** with a person (here or abroad) who has been diagnosed with or is at risk of contracting Ebola.
- ✔ If you can't get in touch with your doctor, call 9-1-1.

Protect Yourself

Ebola can enter the body through broken skin or unprotected mucous membranes, such as the eyes, nose, and mouth.

- ✔ Wash your hands often with soap and water or alcohol-based hand sanitizer.
- ✔ Avoid contact with the body fluids (blood, vomit, pee, poop, spit, sweat, semen, etc.) of a person with Ebola.
- ✔ Avoid contact with items (clothes, linens, needles, syringes) that have come in contact with the blood or body fluid of a person with Ebola.

Ways You CAN'T Get Ebola

- ✔ You can't get Ebola from a person who does not show symptoms.
- ✔ You can't get Ebola through the air.
- ✔ You can't get Ebola though water.
- ✔ You can't get Ebola through food.

DALLAS COUNTY MEDICAL SOCIETY
est. 1876

TEXAS MEDICAL ASSOCIATION
Physicians Caring for Texans

Source: Centers for Disease Control and Prevention, U.S. Department of Health and Human Services

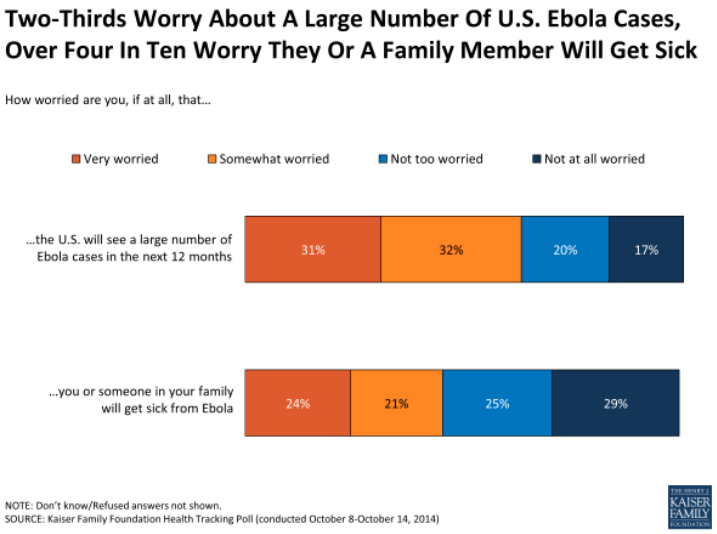
FRIDAY, OCTOBER 17, 2014

Poll: Many Unaware How Ebola Is Spread

By Phil Galewitz
KHN Staff Writer

Content provided by Kaiser Health News

A new survey finds the public has a lot to learn about how the Ebola virus is transmitted, which could help explain the growing fears of the disease.



The survey by the Kaiser Family Foundation found that while nearly all adults (97 percent) know a person can become infected through direct contact with the blood or other body fluids of someone who is sick with Ebola, there are still misconceptions. (KHN is an editorially independent program of the foundation.)

One third of respondents are unaware they cannot become infected through the air. About 45 percent are unaware they cannot contract Ebola by shaking hands with someone who has been exposed to the virus but who does not have symptoms.

And only slightly more than a third (36 percent) of respondents know that a person must be showing Ebola symptoms to transmit the infection, the poll found.

The survey, which was fielded after a Liberian man was diagnosed with Ebola in Dallas, and remained in the field after a nurse who helped care for him contracted the disease, finds most Americans say they trust local, state, and federal health authorities to contain the disease in the U.S.

The public was near evenly split on the federal government's response to the crisis. About 45 percent said the government was doing enough to fight the disease in Africa and 48 percent said it was doing enough to protect Americans.

The telephone poll of 1,503 adults was conducted from October 8-14 and has a margin of error was plus or minus 3 percentage points.

TEXAS MEDICAL ASSOCIATION

Physicians Caring for Texans

view online email-a-friend

PICK UP THE PHONE. LEARN ABOUT TEXAS' EBOLA RESPONSE AND GET CME

October 20, 2014

Dear Debra Heater:

Learn the latest about Texas' Ebola response and how to protect you and your staff by participating in **TMA's Tele-Town Hall meeting tonight**. Plus, you can earn one hour of continuing medical education for your time.

TMA and the Texas Nursing Association are cohosting the program. **We will call you directly at your home phone number promptly at 7 pm CT.** All you need to do is pick up the phone and stay on the line. You must stay on the line the full hour to earn CME.

TMA physician experts and Department of State Health Services' leaders will be on hand to answer your questions from 7 to 8 pm CT.

Upon completion of the program you will be able to:

- Describe the state response to the emerging disease; and
- Discuss and implement appropriate protocols for protecting yourself and your staff from infection.

If you don't want to participate in the call, simply hang up. However, if you can't make the call and want to hear what was discussed, please go to TMA's Ebola Resource Center. A transcript of the meeting will be posted Tuesday.

Also take a few minutes to check out all the materials on TMA's Ebola Resource Center. It's jam-packed with the latest Ebola information. We also have a new patient handout (in English and in Spanish) for your use.

I hope you can join us tonight. I look forward to visiting with you.

Sincerely,

Austin I. King, MD
President
Texas Medical Association

Accreditation Statement: The Texas Medical Association is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Designation Statement: The Texas Medical Association designates this live event for a maximum of 1 *AMA PRA Category 1 Credit(s)*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Texas Organization of Rural & Community Hospitals

October 20, 2014

Re: Texas Task Force on Infectious Disease Preparedness and Response

Testimony: On behalf of the Texas Organization of Rural & Community Hospitals (TORCH)

Hearing: October 23, 2014

Testimony By: David Pearson, FACHE, MPA; TORCH CEO/President

The Texas Organization of Rural & Community Hospitals, also known as TORCH, represents the approximately 175 rural hospitals across Texas. These hospitals range in size from 12 beds to more than 200 beds. However, more than half of these rural hospitals have 25 or less beds. Nearly all are in rural and frontier areas, with forty-five of these hospitals being located in a county with of less than 10,000 population.

The rural hospitals operate very differently than urban hospitals. Most are not required to have a physician present in the hospital at all times. If such a requirement existed, most of these hospitals would be out of business because of the shortage of physicians in rural Texas. However, these same hospitals provide the front line for rural health care access and emergency care. These hospitals care for 15% of the state's population, but their service areas cover 85% of the state's geography. Without the presence of these small rural hospitals, many injured and sick Texans would not survive because of the distances from major medical centers and the need to stabilize a patient as soon as possible.

Over the past week, our association has polled the rural hospitals as to their concerns, available resources, capacity and capabilities with regard to handling Ebola or similar serious infectious diseases. Our preliminary assessment from polling rural hospitals in Texas is that the vast majority do not believe they are capable of handling Ebola patients for any length of time. Some do not believe they can treat an Ebola patient even on a short term basis. It is important to note that there really is no short term Ebola patient situation as it takes a minimum of 48 plus hours and probably much longer to have a patient tested and properly identified. Even if a rural hospital transports an Ebola patient to a larger medical facility, they will still have to care for that patient for a 2 to 4 day window, possibly longer. This will pose a challenge for smaller facilities.

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We also believe that for various reasons, most of these rural hospitals will never be able to position themselves where they can adequately deal with an Ebola patient. Few have isolation rooms, the ability to maintain a full stock of personal protective equipment, and the depth of medical staff it may take, would likely overwhelm a small facility, if the situation were prolonged in any way.

Based on our communications with our rural hospital members since the Ebola situation erupted in Texas, we would make the following recommendations (understanding that some of these may already be in motion):

1) **DSHS CENTRAL POINT OF CONTACT FOR HOSPITALS**
   Rural (and larger) hospitals need clear and concise information in recognizing Ebola symptoms, next steps when they think they may have an Ebola patient, assistance with developing protocols, etc. With the wide array of information out there at this point, it can be overwhelming and confusing. Rural hospitals need a step by step set of protocols from the point that Ebola is deemed a possibility. No matter how basic the question, it would be most beneficial for rural hospitals to have a central source to turn to. There should be a dedicated phone number that is answered by DSHS 24/7 with direct linkage to knowledgeable personnel who have some level of authority. Hospitals need direction and answers immediately when they have a situation, so as not to place their staff and existing patients at risk. DSHS should also regularly communicate to each licensed hospital in the state with advisories, new protocols, and other needed information. The role of associations such as the TORCH should be ancillary and supplementary, but the primary and official source should likely be DSHS at the state level and also be the primary point of contact with HHS and CDC at the federal level.

2) **STATE COORDINATION/ASSISTANCE WITH PERSONAL PROTECTIVE EQUIPMENT (PPE)**
   Some rural hospitals have adequate personal protection equipment for a few days, but many report they do not. And, hospitals are also reporting that when the have attempted to order more PPE, they are told it will take weeks and even months to fulfill. Because of escalated demand nationwide, PPE appears to be coming into short supply. Rural hospitals do not need the stockpile that urban medical centers will need, as their tenure with an Ebola patient will be short. But, even for a short stay, many rural hospitals do not have enough gear to withstand multiple patients for an extended period. We would recommend that the state stockpile additional emergency PPE for deployment to hospitals, especially rural hospitals, based on immediate need and replenishment when a situation does develop. DSHS should also identify hospitals or other facilities that may have a current surplus of PPE that could be redeployed as necessary.

3) **RAPID RESPONSE TEAMS TO RURAL AND SMALL HOSPITALS TO ASSIST WITH IMMEDIATE ISOLATION**

One of the challenges for some rural hospitals is the need to isolate potential Ebola patients and protect staff for 2 to 5 days while a determination is made as to whether the patient actually has Ebola. With many rural hospitals not having an isolation room or negative pressure room, isolation could be problematic, especially if a second or third patient presents with similar symptoms. We recommend the state have some type of rapid response team with isolation gear that is temporary and portable in order to assist and facilitate isolation in rural hospitals that are not capable of doing it themselves.

4) **PATIENT TRANSPORTATION**

Rural hospitals tell us one of their biggest concerns is patient transportation. First, they are most worried about the initial transportation of a patient to the hospital. Some rural EMS systems are expressing resistance to transporting a patient with Ebola symptoms. That resistance is driven by several factors including their personnel – often community volunteers in rural areas – that may walk into a situation without appropriate gear, or they may not even have access to appropriate gear. There is also a big concern that if an ambulance becomes contaminated, then it is out of service until being cleaned. For many of these rural communities, there are only one or two ambulances in service. There is also a concern about timely access to sterilization services in a rural area. The other transportation situation is concern about the transfer of a patient to a larger medical facility and difficulties in identifying a larger medical center that will accept the patient. These issues are most likely addressed with the initial recommendations of this task force of state transport teams and statewide Ebola treatment facilities. The impact all of this may have on non-Ebola patients may be of even greater concern, since initiating treatment within the 'golden hour' is vital to the survival of many other types of emergency and trauma patients.

5) **CONTAMINATED WASTE**

Whether real or just an irrational fear, many rural hospitals have reported that they are concerned about their health waste disposal companies accepting Ebola-related medical waste. Rural hospitals need to know that if such a situation occurs, who they can turn to. DSHS needs to have a plan in place should this fear become reality.

6) **CLEAN-UP OF CONTAMINATED AREAS**

Many rural hospitals are reporting they are not sure where to turn for a major clean-up should an entire hospital become contaminated or who would address the contaminated home, car, etc. of an Ebola patient. They believe there are not adequate resources in many of the local communities to address clean-up or remediation and they are not sure if many of the rural community leaders know where to turn for such assistance. There needs to be a clearing house or referral resource in DSHS for residential and commercial clean-up and sterilization resources.

7) **LOCAL EMERGENCY MANAGEMENT**

Some of the rural hospitals are of the opinion that local emergency management officials do not seem knowledgeable about how to address an Ebola or other infectious disease outbreak in their local community. Most rural emergency management efforts have traditionally focused on natural and manmade disasters, and there does not appear to be a comfort level on a disease related crises, such as a Ebola outbreak. Our members say that their local emergency management leadership is looking to the hospitals to assume that role should something happen. Hospitals are not sure that is their role, especially at a leadership level, given that their first responsibility is to care for the patients inside the facility. There also seems to be an uncertainty with local official, or maybe a discomfort, with regard to the issuance of legal quarantine orders. The state needs to provide clear protocols and information to local emergency management officials and County Judges regarding an Ebola or other highly contagious and dreaded disease situation.

As stated earlier, we recognize that some of our suggestions may already be under development and we realize that the Texas Department of State Health Services and other agencies have been overwhelmed with information the past few weeks. However, we wanted to relay the concerns being expressed by our members in the early stages of this crisis and to offer to share any and all resources and information with the hospitals that are actively serving the 188 or so counties and 3.8 million people that make up rural Texas.

In closing, TORCH has reviewed the recommended actions issued by this committee and we believe they are on point with the needs of our statewide health care delivery system at this point in time when dealing with the containment and treatment of Ebola. However, we request that the rural hospital concerns expressed here, especially regarding the immediate handling of an Ebola patient, be addressed in the very near future and preferably before we have identified an Ebola patient in a rural or community hospital in the State of Texas.

It is our pleasure to share this information with the Texas Task Force on Infectious Disease Preparedness and Response and to continue to work together with you to establish proper treatment and positive outcomes with regard to the Ebola response throughout rural areas.

David Pearson, FACHE, MPA
President/CEO
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dpearson@torchnet.org

Texas Public Health Association

"Health is Every BODY's Business"

P.O. Box 201540 * Austin, Texas 78720-1540
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"For the Promotion and Protection of Public Health in Texas"

WRITTEN TESTIMONY
TEXAS PUBLIC HEALTH ASSOCIATION

TEXAS TASK FORCE ON INFECTIOUS DISEASE PREPAREDNESS AND RESPONSE
OCTOBER 23, 2014

The Texas Public Health Association (TPHA) is a non-profit, state-wide association of public health professionals dedicated to public health in Texas. TPHA was organized in 1923 and is an affiliate of the American Public Health Association. Membership is open to all those interested in public health and includes both academicians and practitioners, in governmental and non-profit agencies.

What is the role of your institution or organization in assisting in education, early identification, or public response to Ebola or other contagious diseases of high consequence?

TPHA's mission is "improving the health and safety of Texas through leadership, education, training, collaboration, mentoring and advocacy." TPHA's annual education conference provides an interactive forum to share best practices and novel responses to case studies. Along with the annual conference, the TPHA Speakers Bureau provides a list of members who have been determined to be experts in their field. These speakers are available to offer dynamic and engaging sessionson various public health topics, providing education and training around the State of Texas. As such, TPHA can offer trainings and seminars for both health department personnel and the public on issues related to public health preparedness and infectious disease control such as:

- Epidemiology of specific infectious diseases
- Risk management
- Risk communication techniques
- Specific techniques such as handwashing and use of PPE

What could be done to improve information/guidance from federal, state, and local sources about Ebola or other contagious high consequence diseases?Do your members feel that there is sufficient, timely education regarding Ebola and other potentially contagious diseases of high consequence?

It is important that knowledgeable, reassuring, trustworthy experts be available to media outlets to provide accurate, timely and relatable information. This will help to reduce the misinformation and fear currently surrounding Ebola. We have to be clear about what we know and what we don't know and we have to be able to communicate in language the public understands rather than medical jargon.

Are there any specific actions that you would recommend at the local, regional, state, or federal level to improve overall preparedness and response to infectious diseases?

The three most important actions that are fundamental to improving overall preparedness and response to infectious diseases in the State of Texas are:

1. Sustained and adequate funding for local health department preparedness training and response activities as well as for supporting personnel involved in these activities. Elimination of disease-specific funding streams.
2. Support for epidemiologic and laboratory capability (through funding or surge capacity) to prepare and respond to the "routine" infectious diseases such as tuberculosis, pertussis, food-borne illness, hospital-acquired infections, West Nile virus, bacterial meningitis, etc. as well as more unusual outbreaks such as Ebola.
3. Increased promotion and uptake of immunizations against vaccine-preventable diseases such as measles, pertussis, and HPV. Reducing personal belief exceptions from immunization requirements.

Public health is on a par with police and fire, protecting the community from disease, and preparedness and response to both natural and bioterrorist related infectious disease outbreaks cannot be done without adequate resources. Spending caps and sequestration have had devastating effects on public health agencies such as the CDC, affecting flow through funding to states and locals. At the international level, the US funding for WHO activities have decreased about one-third from 2010 to 2013, seriously affecting its ability to respond to outbreaks around the world that can then be transported to the US and Texas.

The National Association of County and City Health Officials reported that over ¼ of local health departments experienced a budget cut in the current fiscal year, reflecting a six year trend. Almost half had reductions in services. Overall, state, territorial, and local public health departments, the "boots on the ground" purveyors of public health, have lost over 51,000 jobs since 2008, representing 20% of public health jobs at the state and local level. This is a concern at both the state and local level in Texas.

The "outbreak of the month" type of response limits our ability to react to threats, and disease-specific funding streams tie public health's hands when prioritizing activities. Funding for basic public health activities must be adequate to protect the public's health during routine times and in times of emergencies. Every local health department needs to offer a basic level of services, as defined by the ten essential functions of public health (available at http://www.cdc.gov/nphpsp/essentialservices.html) , so that basic training and capabilities are in place to protect the public at all times.

Texas Public Health Association

"Health is Every BODY's Business"

We must begin to prioritize public health funding and not just when a crisis occurs. Critical to the capacity to respond to any type of outbreak, routine or otherwise, are epidemiologic and laboratory capabilities. These involve:

1) disease surveillance and reporting,
2) case investigation
3) outbreak response and control
4) contact management
5) data analysis, synthesis and communication.

Local health departments in Texas, which can consist of as few as four staff members, must have the capability to provide these services or be able to draw upon epidemiologic surge capacity from other resources, such as larger health departments or the Texas Department of State Health Services (DSHS). By providing these services during infectious disease surveillance and response for common events such as tuberculosis, pertussis, meningitis, and food-borne illnesses, health departments are training and preparing for more unusual outbreaks such as Ebola and pandemic influenza.

There are other areas besides funding that can help assure Texas' ability to prevent and respond to infectious diseases. The Trust for America's Health and RWJ Foundation released a report last December showing that the majority of states reached only half or fewer of key indicators of policies and capabilities to protect against infectious disease threats. Texas scored 4 out of 10, below the average state ranking. The areas that Texas failed include immunization levels for pertussis and seasonal influenza, lab capabilities for timely transportation of samples and ability to handle a significant surge in testing, and covering routine HIV screening under Medicaid. While we worry about exotic but rare outbreaks such as Ebola, vaccine-preventable diseases such as pertussis, measles, and seasonal flu are much more likely to cause outbreaks in Texas. Improving protection and herd immunity against these diseases can be done through more aggressive promotion of vaccination and revisiting how parents opt-out of immunization requirements. Requiring a notarized statement would provide an additional step in the process that may allow more children to be immunized. Correcting these deficiencies would go a long way towards protecting our residents against infectious diseases.

In summary, the Texas Public Health Association is in an excellent position to provide education and training throughout the State, through its annual conference and Speakers Bureau. The organization and individual members are available and ready to assist in whatever ways possible to help prepare Texas and its residents for the next, inevitable outbreak of an infectious disease.

We also have three specific suggestions, sustainable, adequate funding; epi and lab surge capacity availability; and immunization promotion and update to improve infectious disease detection, response, and prevention.

Texas Task Force on Infectious Disease Preparedness and Response

Biographical Sketches for Invited Speakers

Alexander Eastman, M.D., M.P.H. Interim Medical Director, UT Southwestern Medical Center Trauma Center, Parkland Memorial Hospital

Robert Phillips, M.D., Ph.D., F.A.C.C., Executive Vice President and Chief Medical Officer, Houston Methodist

Joseph B. McCormick, M.D., M.S., Regional Dean, UT Health School of Public Health, Brownsville Regional Campus, Harris County Health District

Ron Cook, D.O., Chair, Department of Family and Community Medicine, Texas Tech University Health Sciences Center; Public Health Authority, City of Lubbock

Raymond S. Greenberg, M.D., Ph.D., Executive Vice Chancellor for Health Affairs, The University of Texas System

Thomas Schlenker, M.D., M.P.H., Director, San Antonio Metropolitan Health District, Texas Association of County and City Health Officers

Eric Epley, Executive Director, Southwest Texas Regional Advisory Council, Texas Trauma System

Cindy Zolnierek, Ph.D., R.N., Texas Nurses Association

William “Chip” Riggins, Jr., M.D., M.P.H., Texas Medical Association

Dave Pearson, M.P.A, Texas Organization of Rural and Community Hospitals

Ben Raimer, M.D., M.A., FAAP, Texas Public Health Association

Phillip Johnston, R.Ph., Texas Pharmacy Association

TEXAS TECH UNIVERSITY
HEALTH SCIENCES CENTER
School of Medicine
Department of Family and Community Medicine

Ronald L. Cook, DO, MS, MBA, FAAFP, FACOFP
Braddock Chairman and Associate Professor

Biosketch for Ronald Cook, DO, MS, MBA

Dr. Ron Cook is a native of West Texas, having grown up in Odessa with his twin brother, Don. He came to Lubbock to attend Texas Tech University, where he graduated in 1985 with a Bachelor of Science degree. He continued his education at Texas Tech, receiving a Master of Science in microbiology in 1989, all the while working as a Paramedic. Dr. Cook then headed east to Fort Worth, where he pursued his medical training at Texas College of Osteopathic Medicine, but he returned to Lubbock in 1993 to assume a position as a Family Medicine resident at Texas Tech University Health Sciences Center. During residency training, Dr. Cook served as Chief Resident, and from there, he was persuaded to remain at Texas Tech as an Assistant Professor of Family & Community Medicine. He was promoted to Associate Professor in 2004. Among the many positions he has held in the department and School of Medicine have been Director of Medical Education, Residency Director, Chair of the Executive Committee of the Faculty Council, and Vice Chair. In May of 2012, Dr. Cook was named Braddock Chair of the Department of Family & Community Medicine. He also holds an MBA degree in Health Organizational Management from Texas Tech, and he is board certified in Geriatrics, as well as Family Medicine. He also serves as the Local Health Authority for the city of Lubbock since 2011. He has been involved with emergency preparedness efforts that responded to hurricanes Katrina and Rita in 2004, and the 2009 swine flu pandemic. Dr. Cook has been instrumental in the development of the use of innovative teaching modalities at Texas Tech, such as podcasting and longitudinal clerkships, and he has won many teaching awards. In fact, he is currently serving as the Director of the innovative 3-year medical curriculum known as the Family Medicine Accelerated Track, or F-MAT, which is receiving national attention for its efforts to produce primary care physicians more quickly and with less cost. In September of 2010, the F-MAT program was awarded a $1.6 million grant from the U.S. Health Resources Services Administration. Dr. Cook and his wife Michelle are the parents of two sons, Cade, who attended the Art Institute of Dallas, and Braden, who is a Senior at Texas Tech University. The Cook family enjoys camping, boating and other outdoor activities; Dr. Cook himself is an enthusiastic triathlete and motorcyclist.

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Alexander L. Eastman, MD, MPH, FACS
Parkland Ebola Strike Team Leader (North Texas Ebola Treatment Center)
Disaster Medical Director, Parkland Health and Hospital Systems
Assistant Professor of Surgery, University of Texas Southwestern Medical Center
Chief of Trauma (Interim) and Attending Surgeon, Parkland Memorial Hospital
Lieutenant and Deputy Medical Director, Dallas Police Department
Medical Director and SRRT Surgeon/Inspector, The University of Texas System Police

Dr. Alex Eastman is an Assistant Professor and trauma surgeon in the Division of Burns, Trauma and Critical Care at UT Southwestern Medical Center and the Chief of Trauma Surgery (Interim) at Parkland Memorial Hospital. A graduate with distinction of the George Washington University School of Medicine, he completed his general surgery and two fellowships at The University of Texas Southwestern Medical School/Parkland Memorial Hospital. He is board-certified in both General Surgery and Surgical Critical Care and has a Master's Degree in Public Health from The University of Texas Health Science Center--Houston.

Dr. Eastman works outside the traditional health care setting as well. He is the Deputy Medical Director of the Dallas Police Department, the Lead Medical Officer for DPD SWAT and a Dallas Police Lieutenant. Most recently, he has returned to his roots and continues his service with The University of Texas. In addition to his UT Southwestern Medical Center faculty appointment, Alex was appointed the Medical Director of The University of Texas System Police as well as SRRT Surgeon (rank: Inspector) for the University of Texas System Police SRRT team. This team, charged with responding to critical incidents on all UT System campuses is integral in plans to keep all University of Texas students, faculty and staff safe in these unpredictable times.

A former firefighter/rescuer in Montgomery County, Maryland, his research/academic interests include the prehospital care of the injured, novel methods of hemostasis, cost effective wound care and the interface between medicine, law enforcement and public health. He is the Vice-Chair of the Police Physician's Section of the International Association of Chief's of Police and a member of the United States Department of Justice's Officer Safety and Wellness Working Group. Most recently, Dr. Eastman was awarded the 2014 Outstanding Young Texas Ex Award from the University of Texas at Austin.

Eric Epley BioSketch

Eric Epley is a Certified Emergency Manager and Nationally Registered Paramedic, with nearly 30 years in public safety response and administration. Mr. Epley has been a nationally registered paramedic for over 25 years and was a licensed police officer for over 15 years, serving as a tactical paramedic at the Branch Davidian standoff, the Republic of Texas standoff and other high profile Texas incidents. Epley served as a flight paramedic for San Antonio AirLife for 10 years where he also received the National Flight Paramedic of the Year award in 1996. He responded to New Orleans for Hurricane Katrina as one of the Strike Team Leaders on the Texas Task Force-1 USAR Swiftwater team, and was director of the Regional Medical Operations Center (RMOC) in San Antonio for Hurricanes Rita, Dean, Dolly, Eduard, Gustav and Ike. Epley is certified as a Type III Incident Commander and has been the Deputy IC on the Alamo IMT since its inception. Mr. Epley is currently vice-chair of the DSHS Preparedness Coordinating Council and Chair of the Governor's EMS & Trauma Advisory Council's Disaster Committee, which develops hospital and EMS response plans for statewide disasters and oversees the Texas Emergency Medical Task Force (EMTF) Program.

Since STRAC's founding in 1998, Epley has led the growing organization through many initiatives. A few of the projects Epley has led include the deployment and implementation of a regional wireless electronic medical records system for 31 EMS agencies and 2 air medical programs that now has over a million medical records, regional clinical care registries for trauma, cardiac, stroke and ICU care from 35 hospitals in South Texas, a regional 12-lead EKG wireless transmission system, a trauma data network research project for the US Army Institute for Surgical Research through Dept. of Defense funding, a back-up site for Joint Base San Antonio and 13 other AETC bases for their WebEOC software and the Texas WebEOC Interoperability Project (TWIRP) which provides statewide crisis information management for the Texas Division of Emergency Management and 53 servers throughout Texas. One of the shining achievements for Epley was the conceptualization, implementation and growth of the STRAC-ID credentialing program for physicians and first responders in San Antonio and South Texas.

Philip E. Johnston
Director of Pharmacy
St. David's Round Rock Medical Center
2400 Round Rock Ave.
Round Rock, TX 78681
October 16, 2014

Viveca Martinez
Texas Task Force on Infectious Disease Preparedness and Response
The State of Texas
Austin, TX 78701

To Whom It May Concern:

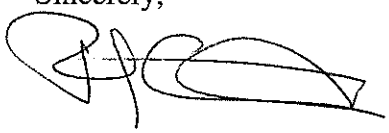
I have been asked by the Texas Pharmacy Association to participate as an expert witness at the Texas Task Force on Infectious Disease Preparedness and Response public hearing. I am enclosing a copy of my resume for reference.

Qualifications to provide testimony:

- Director of Pharmacy in the St. David's Hospital Partnership for 8 years, extensively involved in the preparation for mass-casualty events on both a hospital-wide and area-wide basis.
- 23 years as a pharmacist licensed in Texas.
- Risk Management experience of 15 years.
- Member of the Ebola Response Team at St. David's Round Rock Medical Center, participating in daily activities in preparation of hospital personnel for potential involvement with a suspected Ebola patient.
- Active in both the clinical and academic realms of healthcare.

If you have questions, please call me at (512) 529-5862. I look forward to hearing from you soon.

Sincerely,



Philip E. Johnston, RPh
Director of Pharmacy
St. David's Round Rock Medical Center

PHILIP E. JOHNSTON, RPH

OBJECTIVE

To help develop and provide the environment for exceptional patient care.

EXPERIENCE

2011 – present **St. David's Round Rock Medical Center**
Round Rock, TX

Director of Pharmaceutical Services

- Oversee and administer pharmacy-related services for both inpatients and outpatients for a 195-bed Level II Trauma Center and rehabilitation hospital.
- Enhanced the clinical pharmacy activities of the Pharmacy, leading to an increase in the hospital's cost savings and cost avoidance by 70% from 2011 to 2014.
- Acted as a pilot program for HCA for pharmaceutical waste management.
- Developed decentralized pharmacist services for inpatient care to improve patient safety and patient satisfaction, measured by decreased re-admissions and improved satisfaction scores.
- Enhanced medication outreach programs in the community, teaching "stepping on" classes for the education of older patients regarding medication safety.
- Worked with other St. David's Partnership directors to combine packaging and TPN preparation to provide economy of scale, saving the hospital the cost spent on outsourcing both programs
- Implemented CPOE (physician order entry) program to meet Meaningful Use requirements and enhance patient safety.
- Opened a Free-Standing Emergency Department, including obtaining all of the required licenses and registrations in addition to the development of the pharmacy processes and automation needed to attain excellent care.
- Responsible for a pharmacy staff of 40 employees and a $1 million annual drug budget.
- Participate as part of a six hospital partnership to lower medication and supply costs, while still providing exceptional patient care. Participated in clinical, leadership, and formulary initiatives to improve both financial measures and optimized patient care
- Developed measures to identify and alleviate processes that lead to medication errors, including the formation of the Patient Safety Committee. Medication errors have decreased by 40% since 2011.
- Implemented infusion smart pump technology at RRMC, including the development of the Guardrails software which establishes infusion limits and warnings for caregivers.
- Implemented point of care ("cartless") medication distribution, the first in the St. David's Partnership to do so.

2007 – 2011 **St. David's Georgetown Hospital** **Georgetown, TX**

Director of Pharmaceutical Services

- Oversee and administer pharmacy-related services for both inpatients and outpatients for a 109-bed acute care and rehabilitation hospital.
- Developed a clinical pharmacy program that is considered a model program for patient outcomes and pharmacist engagement, especially in a small community hospital. In addition, this program increased the hospital's cost savings and cost avoidance by 45% from 2008-2010.
- Developed educational programs for healthcare workers at the hospital in conjunction

with physicians to improve the quality of care for patients, as well as serve as a guest lecturer on cardiac medication issues at the St. David's Institute for Learning.

- Responsible for a pharmacy staff of 20 employees and a $1 million annual drug budget.
- Established a controlled substance ordering and auditing process that received a "best practice" designation by HCA, the hospital's parent company.
- Developed measures to identify and alleviate processes that lead to medication errors, including the Medication Safety Committee and Medication Improvement Committee. Medication errors have decreased by 56% from 2008 to 2010.

2008 – 2009 St. David's Georgetown Hospital Georgetown, TX

Administrative Director, Cancer Treatment Center

- Oversee and provide administrativesupport for radiation oncology services for patients from the Central Texas area.
- Work with the Radiation Oncologist to ensure each patient receives the proper clinical treatment tailored to his or her individual needs, as well as optimal customer service and efficient workflow processes for exceptional patient care.
- Manage a staff of 10 employees and numerous volunteers.
- Work with local associations like the American Cancer Society to provide resources for the radiation patients in Williamson County.
- Develop and analyze patient satisfaction surveys to assess the level of patient satisfaction with the care and customer service that they receive.
- Act as a liaison with Medical Oncologists in the Central Texas area and the Radiation Oncologist on staff at the Cancer Treatment Center.

2006 – 2007 Pharmacy Alternatives of Texas Austin, TX

Assistant Director of Pharmacy Services

- Helped in implementing pharmacy services in the state of Texas for EduCare, a company specializing in long term care facilites, mainly for the treatment of patients with mental retardation and closed-head injuries.
- Oversee all day-to-day pharmacy activities, including medication distribution to all parts of the state of Texas.
- Oversee Total Quality Management activities for the pharmacy.
- Oversee all financial activities of the pharmacy, including third party reimbursement.
- Develop and implement policies and procedures for all pharmacy activities.

2004 – present Austin Community College Austin, TX

Associate Professor of Pharmacology – Pharmacy Technician Program

- Teach Pharmacology, both live and online, to pharmacy technican, nursing, and other allied health students
- Developed innovative, yet fun and effective, teaching curricula to aid in the education of the students
- Participated in the re-accredidation of the Pharmacy Technician Program with the Amercian Society of Health System Pharmacists in both 2006, 2010, and 2014.

- ❖ Serve as Chair of the Pharmacy Technician Program Advisory Board to provide guidance to curriculum development and philosophy of the program.
- ❖ Served as Editor for the development of the textbook *Sterile Compounding and Aseptic Technique* in 2011.
- ❖ Served as Editor for the development of the textbook *Pharmacy Labs for Technicians* in 2012.

2001 – 2006 St. David's Medical Center Austin, TX

Acute Care Pharmacy Supervisor

- ❖ Supervise day-to-day pharmacy activities for 350-bed acute care hospital.
- ❖ Supervise 70 pharmacy employees, both pharmacist and technician.
- ❖ Oversee and maintain the Meditech (CPCS) computer system.
- ❖ Oversee and maintain the Med Direct pharmacy order management system.
- ❖ Serve on several hospital committees:
    - o Pharmacy and Therapeutics Committee
    - o Medication Use Committee
    - o EPOM Steering Committee
    - o EMAR Steering Committee
    - o Neonatal ICU Committee
    - o Meditech Core Team

1992 – 2001 St. David's Medical Center Austin, TX

Staff Pharmacist

- ❖ Worked in decentralized and centralized pharmacy practice settings.
    - o Conducted patient chart review and make medication therapy recommendations pertinent to the improvement of patient treatment outcomes
    - o Made cost-saving medication recommendations when those medication changes would safely decrease the patient's length of stay and decrease medication costs on the part of the hospital.
    - o Provided pharmacokinetic drug consults upon request by physicians, including monitoring and follow-up with the patient.
    - o Supervised technicians in day-to-day activities
- ❖ Served in the capacity as computer pharmacist.
    - o Tested, customized and implemented the Meditech (CPCS) computer system with respect to pharmacy applications.
    - o Trained all pharmacy personnel on the use and function of the Meditech computer system.
- ❖ Participated in the Orthopedic Clinical Service Group.
    - o Analyzed the policies and procedures relating to orthopedic surgery patients at St. David's
    - o Helped develop the Progressive Orthopedic Program (POP) that decreased considerably the time that orthopedic patients were in the hospital, including rehabilitation.

ACTIVITIES

2004 – present	Austin Area Society of Health-system Pharmacists
2004 – present	Texas Society of Health-system Pharmacists
2009 – 2011	Texas Society of Health-system Pharmacist Board Member
November 2008 – May 2009	President-Elect of the Austin Area Society of Health-system Pharmacists
May 2009 – December 2011	President of the Austin Area Society of Health-system Pharmacists
2004 – present	Austin Community College Pharmacy Technician Advisory Board
2009 – present	Chair of the Austin Community College Pharmacy Technician Advisory Board

EDUCATION

1987 – 1992 University of Texas College of Pharmacy Austin, TX

- Bachelor of Science in Pharmacy
- Texas Pharmacy License # 33361
- Licensed Preceptor

References Available Upon Request

FAX (512) 251-0093 • PEZCJ@SBCGLOBAL.NET
19304 STAGE LINE TRAIL • PFLUGERVILLE, TEXAS 78660 • PHONE (512) 251-0093

Bobby Kapur, M.D., M.P.H.

Associate Chief for Academic Affairs
Section of Emergency Medicine

Baylor College of Medicine

Bobby Kapur, M.D., M.P.H is the Associate Chief for Academic Affairs and Founding Residency Program Director in the Section of Emergency Medicine and an Associate Professor of Medicine and Pediatrics at Baylor College of Medicine (BCM).

Dr. Kapur is an internationally known emergency physician and public health expert who previously directed global health training programs and international projects at the Ronald Reagan Institute for Emergency Medicine at George Washington University. He has extensive experience establishing academic training programs and acute healthcare systems with partners in China, India, Latin America and the Middle East. In addition, Dr. Kapur implemented a country-wide project to improve emergency services in Turkey that trained more than 2,000 physicians providing emergency care in Turkey's national hospitals.

Dr. Kapur was recruited to BCM to develop and launch the College's Emergency Medicine residency program. Within twelve months, Dr. Kapur successfully completed BCM's application and accreditation of the new training program, and he serves as the director of the residency program.

Based on his international and academic accomplishments, Dr. Kapur was appointed by President Paul Klotman as the Founding Director of the Center for Globalization at Baylor College of Medicine. For two years, Dr. Kapur helped guide the College's global initiatives and worked with the BCM faculty, residents, and students to fulfill BCM's mission to be an international leader in education, patient care, research, and community service.

Dr. Kapur received his Bachelor of Arts degree from Rice University and his Medical Doctor degree from Baylor College of Medicine. He then completed his residency in Emergency Medicine from Yale University followed by a fellowship in international emergency medicine and global health from Brigham and Women's Hospital and Harvard University. He also completed his Master in Public Health from the Harvard School of Public Health.

Dr. Kapur has published multiple peer-reviewed papers and is the senior editor for the first textbook in the field of Emergency Public Health titled *Emergency Public Health: Preparedness and Response*. Dr. Kapur has served as the Chair of the International Committee for both the American College of Emergency Physicians and the Society for Academic Emergency Medicine. In June 2012, Dr. Kapur was awarded the Order of the International Federation of Emergency Medicine for his contributions to global health and emergency medicine.

BIOGRAPHY

TEXAS AIR NATIONAL GUARD

COLONEL (DR.) CRAIG A. MANIFOLD

Colonel (Dr.) Craig Manifold is the Joint Surgeon, Texas Military Forces, Camp Mabry, Texas. He provides advice, leadership, and direction to medical personnel of the Texas Military Forces. Additionally, he is an advisor and member of The Adjutant General's Special Staff as well as primary physician advisor to the Director, Domestic Operations Staff.

Colonel Manifold is originally from Stewartstown, Pennsylvania and was commissioned through the Reserve Officer Training Corps, entered the Health Professions Scholarship Program and entered active duty in 1993 after completing his Doctorate of Osteopathic Medicine at the Philadelphia College of Osteopathic Medicine in Philadelphia. He completed his internship and residency training at the Joint Military Medical Centers, Wilford Hall Medical Center, Lackland AFB, TX in 1997. He is board certified in emergency medicine and emergency medical services. An expert in disaster relief missions, he planned and led hurricane relief/medical efforts for Hurricanes Katrina, Rita, Ike, and Gustav in New Orleans, Louisiana, Galveston Island, and Houston, Texas. He has deployed in support of OPERATION Southern Watch, OPERATION Noble Eagle, and OPERATON Enduring Freedom.

Before becoming Joint Surgeon, Colonel Manifold was the Commander, Chief of Professional Services, Credentials Program Manager and a member of the Medical Group Executive Committee of the 149th Medical Group. Colonel Manifold has extensive military experience, which includes 6 years of enlisted service in the US Air Force and US Air Force Reserves as a medic and aeromedical evacuation technician and ten years as a USAF emergency medicine physician and the remainder of his service in the Texas Air National Guard as a flight surgeon. In the civilian sector Dr. Manifold is the medical director for multiple Emergency Medical Services (EMS) agencies. He is also an Assistant Professor at the University of Texas Health Science Center at San Antonio, Clinical Chief of Emergency Services for Mission Trails Baptist Hospital, and actively participates with the American College Emergency Physicians EMS Committee (Chair), Governors EMS and Trauma Advisory Committee, Texas Preparedness Coordinating Council, Southwest Texas Regional Advisory Council for Trauma Regional Cardiac System Committee, Stoke Committee, and EMS Medical Directors Committee. He is widely published in multiple medical journals.

EDUCATION:

1989 Bachelor of Arts degree in physiology, Southern Illinois University at Carbondale, Carbondale, IL
1993 Doctor of Osteopathy, Philadelphia College of Osteopathic Medicine, Philadelphia PA
1994 Transitional internship, Wilford Hall Medical Center, San Antonio, TX
1997 Residency in emergency medicine, Joint Military Medical Centers, San Antonio, TX
2009 Air War College by correspondence

ASSIGNMENTS:

1. October 1981- Jul 1993, Emergency Medical Technician McGuire Air Force Base, New Jersey
2. July 1983-1985, Flight Instructor, Aeromedical Evacuation Technician, Scott Air Force Base, Illinois
3. July 1993- Aug 1999, Emergency Medicine Physician, Lackland Air Force Base, Texas
4. Nov 2003- April 20012, Chief of Professional Services and Commander, 149th Medical Group, Texas Air National Guard, Lackland AFB, Texas
5. May 2012-Present, Joint Surgeon, Texas Military Forces, Camp Mabry Texas

FLIGHT INFORMATION

RATING: SENIOR FLIGHT SURGEON
FLIGHT HOURS: 1,894
AIRCRAFT FLOWN: F-16, C-130, C-141, C-5, KC-135, C-9, C17

MAJOR AWARDS AND DECORATIONS:

Flight Surgeon of the Year, Air National Guard
Commander's Excellence Award
Senior Resident of the Year Award
Chief Resident
Air Force Meritorious Service Medal with two oak leaf clusters
Air Force Commendation Medal with one oak leaf cluster
Army Commendation Medal
Air Force Achievement Medal with two oak leaf clusters
Air Force Outstanding Unit Award
Air Force Good Conduct Medal
National Defense Service Medal
Armed Forces Expeditionary Medal
Afghanistan Campaign Medal
Global War on Terrorism Expeditionary Medal
Global War on Terrorism Service Medal
Humanitarian Service Medal
Air Force Longevity Service
Small Arms Expert Marksmanship
Louisiana Emergency Service Medal
Texas Outstanding Service Medal

PROFESSIONAL MEMBERSHIPS AND AFFLIATIONS

Diplomat, American Board of Emergency Medicine
Fellow, American College of Emergency Physicians
Fellow, American Academy of Emergency Medicine
National Association of Emergency Medical Services Physicians
National Guard Association of Texas

Association of Military Osteopathic Physicians

EFFECTIVE DATES OF PROMOTION:
Captain, 25 May 1993
Major, 25 May 1999
Lieutenant Colonel, 8 Jan 2005
Colonel, 2 Feb 2010

(Current as of July 2014)

Joseph B. McCormick, MD, MS is Vice President for South Texas Programs for the University of Texas Health Science Center at San Antonio and the Regional Dean, Brownsville campus of the University of Texas School of Public Health. He was raised on a farm in Indiana. After graduating cum laude from Florida Southern College with majors in chemistry and mathematics, he attended L'Alliance Française and the Free University in Brussels in preparation for teaching sciences and mathematics in French in a secondary school in the Congo. There in the local hospital he was introduced to medicine, particularly tropical medicine. He entered Duke Medical School in 1967 graduating in 1971 with an intercalated MS from Harvard School of Public Health (1970). His internship and residency were at Children's Hospital of Philadelphia under Dr. C. Everett Koop. In 1974 he became an Epidemic Intelligence Service Officer (EIS), at the CDC, and a fellow in Preventive Medicine. He was a PAHO/CDC consultant for the Brazilian government for the extensive meningococcal outbreaks of 1974/6, which was the origin of his publication recommending rifampin prophylaxis for contacts of patients with meningococcal disease that remain in effect today. In 1977 he went to West Africa to found the CDC Lassa fever Research Project in Sierra Leone, where he received an emergency call to join the team investigating the first Ebola epidemic in 1976 and again in 1979. In Sierra Leone he conducted definitive studies of the epidemiology and treatment of Lassa hemorrhagic fever, with a landmark publication in the New England Journal of Medicine on effective antiviral treatment for this disease. He became Chief, Special Pathogens Branch, Division of Viral Diseases at the CDC in 1982, directing the Biosafety level 4 laboratories for 9 years. He became involved in AIDS and led the original team that did the first AIDS investigation in Africa in 1983 and played a key role in establishing the Project SIDA in Kinshasa, Zaire, and later, with Dr. DeCock and EIS officer with Dr. McCormick, the Project Retro-Ci in Abidjan, Ivory Coast. In 1983 he identified the virus that causes Hemorrhagic Fever with Renal Syndrome (Hantavirus) in his laboratory at CDC.

In 1993, he became Chairman, Community Health Sciences Department, at the Aga Khan University Medical School (AKU) where he established an epidemiology program, resembling the CDC Field Epidemiology Training Programs, and a Masters' degree in Epidemiology. He returned to the US in 2001 to start a new regional campus of the UT Houston School of Public Health in Brownsville, Texas where he is the Regional Dean and the James H. Steele professor of epidemiology. He has recently also accepted the position of Vice President for South Texas Programs for the University of Texas Health Science Center in San Antonio, a position that he will hold along with his Regional Dean position. The impact of the program in Brownsville is illustrated by the brief (4 minute) video: http://www.youtube.com/watch?v=-bOLx282R2c&feature=youtu.be

During his 12 years in Brownsville, Dr. McCormick has been PI on 3 NIH grants and a Co-Investigator on several others including the two CTSA grants for UTHSC Houston. He was the RHP5 coordinator for the Texas 1115 waiver and is responsible for 8 projects under the waiver. He has also been PI on several CDC grants over the 12 years in Brownsville. The

Brownsville campus has published over 120 peer reviewed articles over the past 12 years, many characterizing the extraordinary level of health disparities in the region.

His awards include the USPHS Meritorious Service Medal, and humanitarian awards from Florida Southern College and Duke University Medical School, and Friend of Public Health award from the Texas DSHS. Dr. McCormick has over 250 scientific publications with co-authors from over 20 different countries. He has contributed to television, newspapers and periodicals and is featured in several books for the lay reader (e.g.,The Coming Plague, The Hot Zone). With his wife, Sue Fisher-Hoch he co-authored a popular account (Level 4, Virus Hunters of the CDC) of their adventures that was translated into seven languages. He is an accomplished amateur pianist, and enjoys outdoor activities such as running, back packing, skiing and fly-fishing.

David Pearson's Bio

David Pearson is currently the President/CEO of the Texas Organization of Rural & Community Hospitals. TORCH is a professional association whose members consist of general acute care hospitals of less than 150 beds, as well as the companies and organizations which provide products and services to rural hospitals. David is also directly responsible for several subsidiary organizations: a for-profit management services company, a not-for-profit foundation and multiple provider organizations, including:

- Texas Rural Health Clinic Association
- Texas Hospital Home Health Association
- Northwest Texas Hospital Association
- Texas Rural Health Association

Before becoming the CEO, David served as the Vice President of Advocacy and Communications for TORCH for six years. David is an experienced advocate who has been involved with legislative and regulatory activities involving rural hospitals at both the state and federal level since 1997. David is also a registered lobbyist in the state of Texas.

Prior to coming to TORCH, David was the Director of Operations for the State Office of Rural Health in Texas and also coordinated all the agency's rural hospital programs. Before that he held management positions at several rural and urban hospitals in the state of Kansas, including the Executive Director of a 12-member rural hospital cooperative (Med-Op, Inc.) in the state's Northwestern quadrant.

He holds a Bachelor of Science in Healthcare Administration and a Master of Public Administration Degree from Texas State University in San Marcos. David is a Fellow in the American College of Healthcare Executives and has been Board Certified in Healthcare Management by ACHE since 2003. He is also currently a member of the Board of Directors for the AAMA's American College of Small or Rural Healthcare.

In 2007, David was named a Herkimer Award winner for outstanding health administration alumni at Texas State University. David was chosen as one of the twelve Rural Health Fellows for 2008 by the National Rural Health Association in Washington, DC and now serves as the Government Affairs Committee Chairman and Vice-chair of the Rural Health Policy Congress. He also serves NRHA's Executive Finance Committee, and the NRHA Service Corporation Board of

Directors. In 2012, he was named the Texas Rural Health Association's President's Award winner.

David is also a husband and father of two boys. He and his wife Laura make their home in Cedar Park, TX. They are active in their local community and schools, including Scouting and they attend Hill Country Bible Church in Northwest Austin.

Dr. Persse's career in medicine started with ten years experience as a field paramedic and paramedic instructor in upstate New York and New Jersey. After receiving his pre-med training at Columbia University in New York, he then attended Georgetown University School of Medicine. Graduating with honors in emergency medicine from Georgetown, Dr. Persse then completed residency training in emergency medicine at Harbor-UCLA Medical Center in Torrance, California. After residency, Dr. Persse completed a resuscitation research fellowship at the Ohio State University. Dr. Persse was then awarded a grant from the Society for Academic Emergency Medicine and completed fellowship training in emergency medical services and resuscitation at the Baylor College of Medicine and the City of Houston Emergency Medical Services program. Following his EMS fellowship Dr. Persse became the Assistant Medical Director for the Emergency Medical Services system of Houston. He then moved to California to become the Medical Director of the Los Angeles County Paramedic Training Institute, and the Assistant Medical Director of the Los Angeles County EMS Agency. In 1996 Dr. Persse returned to Houston to assume the role of the Director of Emergency Medical Services for the City of Houston. In May of 2004 he was appointed by City Council as Houston's Public Health Authority. In his role as Public Health Authority Dr. Persse is responsible for the medical aspects of clinical care quality management, disease control and public health preparedness. He is also a member of the Board of Directors for the South East Texas Trauma Regional Advisory Council and the National Registry of Emergency Medical Technicians. He is the recipient of the *Keith Neely Outstanding Contribution to the National Association of EMS Physicians* for his leadership during the Hurricane Katrina response, 2007, and the 2009 Michael K. Copass Award from the U.S. Metropolitan Medical Directors. Dr. Persse is a Professor of Medicine and Surgery at the Baylor College of Medicine and Associate Professor of Emergency Medicine at the University of Texas Medical School – Houston. He is also a Tactical Physician with the Houston Police S.W.A.T. team. (338 words)

SHORTER VERSION:

Dr. David Persse has been the Physician Director of EMS for the City of Houston since 1996 and the Public Health Authority since 2004. A graduate of the Georgetown University School of Medicine he completed his emergency medicine residency at Harbor-UCLA Medical Center, and two fellowships, one at the Ohio State University and one at Baylor College of Medicine. He is now on faculty at both the Baylor College of Medicine and the University of Texas Medical School-Houston. He is also a Tactical Physician with the Houston Police S.W.A.T. team. (90 words)

Robert A. Phillips, MD, PhD, FACC
Houston Methodist

Robert A. Phillips, MD, PhD is Executive Vice President and Chief Medical Officer of Houston Methodist and President and Chief Executive Officer of the Houston Methodist Specialty Physician Group in Houston, Texas.

Graduating with the Elster Award in 1980 from Icahn School of Medicine at Mount Sinai with a combined MD and PhD in molecular biology, Dr. Phillips completed his residency in internal medicine in New York City at Presbyterian Hospital/Columbia-Presbyterian Medical Center (New York-Presbyterian) and fellowships in cardiology and hypertension at Mount Sinai. At Mount Sinai Dr. Phillips rose to the rank of Professor of Medicine where he was Director of the Hypertension, Cardiac Rehabilitation and Cardiac Health Programs.

Dr. Phillips is a nationally recognized cardiologist and expert in hypertension and cardiovascular disease. He is board certified in internal medicine and cardiovascular disease and is consistently recognized by his peers as one of the outstanding cardiovascular medicine physicians in America (Castle Connolly and Best Doctors Inc.). He is an active researcher who has served as a principal or co-principal investigator on more than 60 clinical trials in cardiovascular disease that have been funded by the National Institutes of Health, the American Diabetes Associates, the American Heart Association and the American Society of Hypertension. He directed the Cardiovascular Core Lab for the recently completed NIH-funded African American Study of Kidney Disease and Hypertension (AASK).

Dr. Phillips has published more than 150 peer-reviewed papers. He is Hypertension Editor, Journal of the American College of Cardiology, Senior Associate Editor of the Journal of Clinical Hypertension, is on the editorial boards of JAMA Medicine, the Journal of the American Society of Hypertension and CardioRenal Medicine and is Treasurer of the American Society of Hypertension.

Prior to joining Houston Methodist, Dr. Phillips was Professor of Medicine at the University of Massachusetts Medical School where he was a Senior Vice President and Director of the Heart and Vascular Center of Excellence. Previously, Dr. Phillips was Professor of Medicine at New York University School of Medicine, Chair of the Department of Medicine at Lenox Hill Hospital, and Professor of Medicine at the Icahn School of Medicine at Mount Sinai in New York City.

Dr. Phillips is a fellow of the American College of Cardiology, the American College of Physicians, the American Heart Association (AHA) and the American Society of Hypertension. He was the recipient of the Heart of Gold Award from the AHA in 2010, was elected to the Association of University Cardiologists in 2012, and was the recipient of the 2013 American Heart Association Torch of Strength Award.

Ben G. Raimer, MD, MA, FAAP
Senior Vice President
UTMB Health Policy & Legislative Affairs

Over the past three decades, Dr. Ben Raimer has held numerous academic and administrative positions at the University of Texas Medical Branch in Galveston, Texas. A tenured professor in the departments of Pediatrics, Family Medicine, and Preventive Medicine and Community Health, Dr. Raimer was appointed senior vice president for the Office of Health Policy and Legislative Affairs in 2008. He previously served as vice president for the UTMB Office of Community Outreach, as chief physician executive and CEO of UTMB Correctional Managed Care, as medical director of the UTMB Primary Care Outpatient Clinics, as CEO for Community Health Services, and as chief physician executive for UT-MED (The Group Practice of Medicine at UTMB).

Dr. Raimer is a Diplomate of the American Board of Pediatrics and a Fellow of the American Academy of Pediatrics. He holds an undergraduate degree in biology from East Texas Baptist University, a master's degree in human genetics from the UTMB Graduate School of Biomedical Sciences, and a doctorate from the UTMB School of Medicine. Since completing an internship and residency in pediatrics at UTMB in 1977, he has provided community-based medical care to scores of young patients living in Galveston and neighboring counties. He is certified by the American Board of Pediatrics and is a Fellow of the American Academy of Pediatrics. Much of his practice has been devoted to the evaluation and treatment of children and adolescents with behavioral disorders and learning disabilities. Raimer is a nationally recognized expert and author on prevention and treatment of child abuse and neglect and has been honored by several state and national children's advocacy organizations for his contributions. He also has extensive experience in health care practice management and correctional health care and telemedicine and has published numerous articles on these topics.

In addition to the many hats he wears at UTMB, Dr. Raimer is a member of the Texas Pediatric Society Executive Board, the Texas Public Health Association Governing Council and Executive Board, the Texas Health Institute Board of Directors, and the East Texas Baptist University Board of Trustees. He is a member of the Executive Committee of the Baptist General Convention of Texas and serves as a consultant to the BGCT Christian Life Commission. He also serves as chair for the Galveston County Health District United Board of Health and formerly served as chair of the Texas Statewide Health Coordinating Council for 13 years and the Health Disparities Task Force of the Texas Health and Human Services Commission. He was the inaugural chair of the Texas Institute of Health Care Quality and Efficiency Board of Directors. Most recently, Governor Perry appointed Dr. Raimer as chair of the Health and Human Services Commission Council for a term to expire Feb. 1, 2015. The council helps develop policies and rules for the Texas Health and Human Services Commission and makes recommendations regarding the management and operation of the commission.

W. S. “Chip” Riggins Jr. MD, MPH

Since September of 2009, Dr. Riggins has served Williamson County and Cities as the Local Health Authority and as the chief executive officer of their Health District. In collaboration with the Board of Health, staff, and key stakeholders, he plans, organizes, and directs the set of comprehensive public health services for Williamson County. His local health authority experience includes time as Medical Director for the Galveston County Health District from 1990 to 1995 and as Regional Director for the Texas Department of Health serving the 28 Counties in Public Health Region 8, San Antonio, from 1995 to 2005.

Dr. Riggins received his M.D. degree from the Louisiana State University at Shreveport and his Masters in Public Health from Tulane School of Public Health in New Orleans. He is Board certified in Family Practice, Public Health/General Preventive Medicine, and Aerospace Medicine. He is a Fellow of the American Academy of Family Physicians and the American College of Preventive Medicine. Dr. Riggins is a Colonel in the USAF Individual Ready Reserve and his assignments included serving as the Air Surgeon and Director of Medical Services for the Air National Guard at the National Guard Bureau, Washington, D.C., Chief Surgeon, Joint Force Headquarters, Texas Military Forces at Camp Mabry in Austin, Texas and State Air Surgeon for Texas Air National Guard.

Dr. Riggins currently chairs the Statewide Preparedness Coordinating Council for the Department of State Health Services, represents Health Authorities on the Statewide Public Health Funding and Policy Committee and is a member and past chair of the Texas Medical Association’s Council on Public Health. He is Assistant Professor and Deputy Program Director of the Preventive Medicine Residency Program at Texas A&M Health Science Center at Round Rock.

Biography

Thomas L. Schlenker, M.D., M.P.H. joined the City of San Antonio in June 2011. As the Director of the San Antonio Metropolitan Health District, Dr. Schlenker oversees a staff of approximately 400 employees who serve the residents of San Antonio and Bexar County through:

- Infectious disease control and prevention
- Environmental protection
- Health promotion; and
- Emergency Preparedness

Prior to his appointment with the City, Dr. Schlenker was the Public Health Director for Madison and Dane County, Wisconsin from 2006-2011. Previous to that he led health departments in Milwaukee, Wisconsin, Salt Lake City, Utah, served as Chief Medical Officer for the Children's Hospital of Wisconsin-Kenosha and was a Senior Fullbright Fellow at the National Institute of Public Health in Cuernavaca, Mexico. He is a board certified pediatrician who has cared for patients, conducted public health research and managed organizations in the United States and Latin American. Dr. Schlenker has been recognized for merging local health agencies, for his research in infant mortality, childhood lead poisoning, and the epidemiology of measles and for effectively connecting the practice of local public health to community clinicians and health care systems. He has held several academic appointments including teaching the masters level course "Infectious Diseases in Public Health" at the Medical College of Wisconsin.

Education

- BA, Antioch College
- M.D., Northwestern University
- Masters of Public Health, Harvard School of Public Health

Ted Shaw
President/CEO
Texas Hospital Association

Walter "Ted" Shaw joined the Texas Hospital Association as the organization's fourth president and chief executive officer in February 2014. Shaw brings expertise forged from a 40-year career in health care leadership to his role as key strategist and spokesperson on behalf of more than 430 THA member hospitals. Prior to joining THA, Shaw served as interim executive vice president and chief financial officer for Parkland Health and Hospital System in Dallas, where he led the development of the Medicaid Transformation Waiver in North Texas and the construction of an 864-bed replacement hospital. From 2004-2011, he was a partner with the Dallas-based Financial Resource Group LLC, a health care consulting firm where he specialized in interim operational turnarounds with facilities across the U.S. Prior to joining FRG, Shaw was president of the health care consulting firm W.T. Shaw Company from 1998-2003.

His legacy for leading impressive turnarounds includes assignments at Jackson Memorial Hospital in Miami, the third largest public health system in the U.S.; East Jefferson General Hospital in Metairie, La., both before and after Hurricane Katrina; Fletcher Allen Health Care in Vermont; and Maricopa Integrated Healthcare System in Phoenix. In addition, he has a strong background in health care technology and insurance, having served as chief operating officer of Health2Health.com, an Internet-based HIPAA solutions company; and with Dallas-based CareSystems Corporation, a workers' compensation technology support firm.

He began his career with Ernst & Young in San Antonio, Cleveland and Dallas, achieving the role of partner with responsibility for the Southwest Region Healthcare Practice from 1973-1992. Shaw holds a bachelor's degree in business administration in accounting from The University of Texas at Austin, and is a certified public accountant and a fellow in the Healthcare Financial Management Association.

Curriculum Vitae
William L. Sutker, M.D.

Home Address: 5528 Inverrary Court
Dallas, Texas 75287

Business Address: Office of Medical Education
Baylor University Medical Center (BUMC)
3500 Gaston Avenue
Dallas, Texas 75246

Academic Degrees:

Undergraduate:
University of Illinois
Urbana, Illinois
1966-1970
B.S. in Physiology

Medical School:
Chicago Medical School
North Chicago, Illinois
1970 – 1974

Internship:
Straight Internal Medicine
Baylor University Medical Center
3500 Gaston Avenue
Dallas, Texas 75246
July 1974 – June 1975

Residency:
Internal Medicine
Baylor University Medical Center
3500 Gaston Avenue
Dallas, Texas 75246
July 1975 – June 1977

Fellowship:
Infectious Diseases
Baylor University Medical Center
3500 Gaston Avenue
Dallas, Texas 75246
July 1977 – June 1979

Medical Licensure:

Texas – 1975 – present
Illinois – 1975 – present

Honors:

Alpha Omega Alpha- 1979
Baylor University Medical Center Internal Medicine Residency – Best Teacher, Subspecialist – 1990, 1991, 1993

Teaching Appointment:

Attending Physician
Baylor University Medical Center
3500 Gaston Avenue
Dallas, Texas 75246
Responsibilities:

Internal Medicine Teaching Service, Teaching Attending, 1979-Present – 6 hours didactic and bedside teaching rounds with medical students, interns and residents per week, 1 to 2 months per year

Internal Medicine Teaching Service, Teaching Attending, Infectious Diseases elective, 1979-2006, didactic and bedside teaching rounds with medical students, interns and residents

40 hours/week 1979-1994
20 hours/week 1994-2006

Internal Medicine Teaching Service, Morning Report – 1979-Present - 5 hours interactive case conference per week– 3 months per year

Internal Medicine Teaching Service, Infectious Diseases Lecture Series Coordinator – 1979-Present - topic selection and schedule coordination, as well as didactic topic delivery and discussion, 3 hours/month

Internal Medicine Teaching Service, Case Conference Examiner – primary practice-based learning and improvement project for the internal medicine residency – case review and discussion, 3 hours/month

Internal Medicine Teaching Service, Patient Safety Lecture Series Coordinator – 2006-Present – topic selection and schedule coordination, as well as didactic topic delivery and discussion, 1 hour/month

Internal Medicine Teaching Service, Outpatient Clinic Director, 1979-Present – administrative interaction with resident clinic chiefs, staff physicians, program director and associate program directors, 2 hours/month

Teaching Appointment cont.:

Internal Medicine Education Committee, 1979-Present – curriculum design, review and revision with special emphasis on infectious diseases aspects of the curriculum, 2 hours/month

Infectious Diseases Fellowship Teaching Service, 1979-1994, 2012- Present-didactic and bedside teaching rounds with infectious diseases fellows

7/79-6/94 – 40+ hours/week, 12 months/year
7/12 – 20 hours/week, 1 month/year

Infectious Diseases Fellowship Teaching Service, 1979-1994, 2012-Present, Infection Control and Prevention/Hospital Epidemiology Case Conference Series, 1 hour/week

Infectious Diseases Fellowship Teaching Service, 1979-1994, 2012-Present, City-Wide Infectious Diseases Case Conference, 1 hour/week

Infectious Diseases Education Committee, 1979-1994; 2010-Present; curriculum design, review and revision with special emphasis on patient safety, antimicrobials and antimicrobial stewardship aspects of the curriculum, 2 hours/month

Professional Organizations:

American Medical Association
Texas Medical Association
Dallas County Medical Association
Committee on Antibiotic Stewardship 2011-Present
American College of Physicians – Fellow
Infectious Diseases Society of America - Fellow
Association of Program Directors in Internal Medicine
Outpatient Intravenous Infusion Therapy Association, 1992-1999; Board of Directors 1997-1999 (until incorporation into the Infectious Diseases Society of America)

Certification:

Diplomate of National Board of Medical Examiners – 1975
Diplomate of the American Board of Internal Medicine - 1977
Diplomate of the American Board of Internal Medicine
Subspecialty of Infectious Diseases – 1980

Current Positions:

Director of Medical Education – Baylor University Medical Center
Chief, Infectious Diseases – Baylor University Medical Center
Medical Director – Health Care Improvement and Care Coordination – Baylor University Medical Center

Current Positions cont.:

Patient Safety Officer – Baylor University Medical Center
Medical Director – Infectious Diseases and Epidemiology – Baylor Health Care System, Baylor University Medical Center, Baylor Specialty Hospitals, Baylor Institute for Rehabilitation, Baylor Heart and Vascular Hospital
Medical Director, Emergency Management-Infectious Diseases, Baylor Health Care System, Baylor University Medical Center
Medical Director of IV Services – Baylor University Medical Center
Co-medical Director of Employee Health – Baylor University Medical Center

Publications, Abstracts and Presentations:

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2. Sutker WL: Serologic Diagnosis of Deep Fungal Infections in Compromised Hosts. American Cancer Society Fellowship Grant. 1978-79.

3. Sutker WL, Lankford LL, Tompsett R: Granulomatous Synovitis: The Role of Atypical Mycobacteria. Reviews of Infectious Diseases, 1:729.1979

4. Mackowiak P, Demian S, Sutker WL, et al: Infections in Hairy Cell Leukemia. Abstract presented at the Nineteenth Interscience Conference on Antimicrobial Agents and Chemotherapy. Boston, Massachusetts. 1979.

5. Sutker WL, et al: Wound Botulism (case report). Morbidity and Mortality Weekly Reports. 29:34, 1980.

6. Mackowiak PA, Demian SE, Sutker WL, et al: Infections in Hairy Cell Leukemia. Clinical Experience of a Pronounced Defect in Cell Mediated Immunity. American Journal of Medicine. 68:718, 1980.

7. McCoy MT, Sutker WL, Tompsett R: Diagnostic Significance of Bone Marrow Granulomas. Abstract presented at the Twenty-first Interscience Conference on Antimicrobial Agents and Chemotherapy. Chicago, Illinois. 1981.

8. Sutker WL, Tompsett R: Infections Due to Atypical Mycobacteria. Infectious Diseases. Ed. Jay P. Sanford, James P. Luby. New York: Grune and Stratton, Inc., 1981.

9. Seidenfeld S, Sutker WL, Luby J: Fusobacterium Necrophorum Septicemia Following Oropharyngeal Infection. JAMA: 248, 1348, 1982.

10. Sutker WL: Cost-Effective Treatment for Serious Infections. Current Concepts, Physician Assistant. 10:43, 1986.

11. Sutker WL: Home Intravenous Antibiotic Treatment. Infections in Medicine. 5:7, July/August 1988.

12. Sutker WL: Home Intravenous Antibiotic Treatment. Infections in Surgery. 7:9, August 1988.

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14. Mai M, Nery J, Sutker WL, Husberg B, Klintmalm G, Gonwa T: DHPG (Gancyclovir) Improves Survival in CMV Pneumonia. Transplantation Proceedings. 21:1, February 1989.

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16. Sutker WL: Infectious Diseases Update 1993, Dallas Medical Journal: 79:8 353 – 357, 1993.

17. Cofer JB, Morris CA, Sutker WL, Husberg BS, Goldstein RM, Gonwa TA, Klintmalm GB: A Randomized Double-Blind Study of the Effect of Prophylactic Immune Globulin on the Incidence and Severity of CMV Infection in the Liver Transplant Recipient. Transplantation Proceedings: 23:1, 1525-1527, 1991.

18. Cofer JB, Morris CA, Sutker WL, Husberg BS, Goldstein RM, Gonwa TA, Klintmalm GB: Immunotherapy with Intravenous Immunoglobulins. "The Effect of Prophylactic Immune Globulin on Cytomegalovirus Infection in Liver Transplants." Academic Press Ltd., 229-235, 1991

19. Schussler JM, Fenves AZ, Sutker WL: Intermittent Fever and Pancytopenia in a Young Mexican Man. Southern Medical Journal: 90, 1037-1039, October 1997.

20. Schussler JM, Jordan H, Stokoe C, Feliciano N, Sutker WL, Orr D: Hantavirus Pulmonary Syndrome, Southern Medical Journal: 92, 233 – 235, February 1999.

21. Srinivasan, A, Burton, EC, Kuehnert, MJ, Rupprecht, V, Sutker, WL, Ksiazek, TG, Paddock, CD, Guarner, J, Shieh, WJ, Goldsmith, C, Hanlon, CA, Zoretic, J, Fischbach, B, Niezgoda, M, El-feky, WH, Orchiari, L, Sanchez, EQ, Likos, A, Klintmalm, GB, Cardo, D, LeDuc, J, Chamberland, ME, Jernigan, DB, Zaki, SR: Transmission of Rabies Virus from an Organ Donor to Four Transplant Recipients, New England Journal of Medicine 352:1103-1111, March 17, 2005.

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24. Nadasy KA, Patel RS, Emmett M, Murillo RA, Tribble MA, Black RD, Sutker WL. Four cases of disseminated Mycobacterium bovis infection following intravesical BCG instillation for treatment of bladder carcinoma. South Med J. 2008 Jan;101(1):91-5.

25. Sutker W, Columbus C, Prescott J, Peden A, Brown J, Valencia F, Izzo C. Hand Hygiene Stations: Building a Culture of Hand Hygiene in a Large Urban Teaching Facility. Presented at the Association of Professionals in Infection Control and Epidemiology International Educational Meeting and Conference, June 15-19, 2008, Denver, Colorado.

26. Peden A, Sutker W, Columbus C, Brown J, Prescott J, Valencia F, Izzo C. A Novel Approach to Standardized Online Construction/Renovation Permitting Via a Large System Intranet. Presented at the Association of Professionals in Infection Control and Epidemiology International Educational Meeting and Conference, June 15-19, 2008, Denver, Colorado.

27. Brown J, Sutker W, Columbus C, Prescott J, Peden A, Valencia F, Izzo C. Use of Modified Duty Personnel to Audit Hand Hygiene and Isolation Compliance as well as Other Epidemiology Focus Issues in a Large Urban Teaching Facility. Presented at the Association of Professionals in Infection Control and Epidemiology International Educational Meeting and Conference, June 15-19, 2008, Denver, Colorado.

28. Sutker W, Columbus C, Izzo C, Brown J, Prescott J, Peden A, Valencia F. Use of a Data Mining System to Improve the Process of Public Health Reporting in a Large Teaching Facility. Presented at the Association of Professionals in Infection Control and Epidemiology International Educational Meeting and Conference, June 15-19, 2008, Denver, Colorado

29. Sutker WL, Cassity, C. TIPS Training Improves Communication among Members of the Health Care Team. Presented at the National Patient Safety Foundation annual meeting, May 2008, Washington, DC

30. Bruner A, Sutker W, Maxwell G. Minimizing patient exposure to ionizing radiation from computed tomography scans. Proc (Bayl Univ Med Cent). 2009 Apr; 22(2):119-23.

31. Prescott J, Sutker W, Columbus C, Prengler I, Brown J, Valencia F, Peden A, Izzo C. Raising the Bar on Hand Hygiene Compliance: A Leadership Lead System-

Wide Initiative. Presented at the Association of Professionals in Infection Control and Epidemiology International Educational Meeting and Conference, June 7-11, 2009, Fort Lauderdale, Florida

32. Brown J, Sutker W, Columbus C, Prescott J, Valencia F, Peden A, Izzo C. A Picture is Worth a Thousand Words. Presented at the Association of Professionals in Infection Control and Epidemiology International Educational Meeting and Conference, June 7-11, 2009, Fort Lauderdale, Florida

33. Valencia F, Sutker W, Columbus C, Prescott J, Brown J, Peden A, Izzo C. Benefits of Infection Preventionist with Floor Nurse Councils. Presented at the Association of Professionals in Infection Control and Epidemiology International Educational Meeting and Conference, June 7-11, 2009, Fort Lauderdale, Florida

34. Sutker WL. Ventilator Associated Pneumonia, Presented at the UT Southwestern Regional Conference on Infectious Diseases, Dallas, TX August 2009

35. Brown J, Sutker W, Columbus C, Prescott J, Peden A, Valencia F, Izzo C. A Picture is Worth a Thousand Words. Presented at the Texas Society for Infection Control Professionals Annual Education Conference and Meeting, March 25-26, 2010, Austin, Texas

36. Sutker, WL, Cassity, C. Post-Operative Respiratory Depression Management. Presented at the Institute for Healthcare Improvement Annual Meeting, December 2010, Orlando, Florida

37. Cassity, C, Harvey, T, Maxwell, G, Sutker, WL, Allen, K, Ault, T, Cather, C, Dunn, M, Fowler, R, Kellogg, S, LaTour, M, Lopez, S, Upshaw, M, Petrey, B, Solsbery, L. Stat-Are You Sure of That? A Multidisciplinary Team Approach to Reduce Stat Radiology Exams. Presented at the National Patient Safety Foundation, May 2012, Washington, DC

38. Cassity, C, Sutker, WL, Fab 50. A Recognition Program to Engage Staff in a Culture of Safety. Presented at the National Patient Safety Foundation, May 2012, Washington, DC

Cindy Zolnierek, PhD, RN

As executive director of the Texas Nurses Association, Cindy leads the strategic operations of the Texas Nurses Association (TNA), a professional membership organization of registered nurses that advances nursing through leadership, collaboration, advocacy, and innovation. As co-lead of Texas Team Advancing Health through Nursing, she facilitates accomplishing the IOM recommendations for the Future of Nursing through coalition work throughout the state. Cindy's nursing career spans advanced practice, chief nurse executive, and academic roles. She has authored numerous publications focusing on nursing practice, advocacy, and care of persons with serious mental illness. She received a BSN from University of Detroit - Mercy, an MSN in adult psychiatric-mental health nursing from Wayne State University, and a PhD in nursing from University of Texas at Austin.

Appendix D

Biographies of Task Force Members

 **Director** **Dr. Brett Giroir** Executive Vice President and CEO Texas A&M Health Science Center	Dr. Brett Giroir has led the Texas A&M Health Science Center since October 2013. Prior to his current position, he served as Vice Chancellor for Strategic Initiatives for the Texas A&M University System and Principal Investigator for the Texas A&M Center for Innovation in Advanced Development and Manufacturing, a public-private partnership with the U.S. Department of Health and Human Services designed to enhance the nation's emergency preparedness against emerging infectious diseases, including pandemic influenza, and chemical, biological, radiological and nuclear threats. Dr. Giroir received his undergraduate degree in Biology, magna cum laude, from Harvard University and his medical degree from the University of Texas Southwestern Medical Center, Alpha Omega Alpha. He served on the faculty of UT Southwestern (1993-2004), achieving a rank of tenured Professor. He held two endowed chairs, and served as the Associate Dean for Clinical Affairs at UT Southwestern Medical Center, as well as the first Chief Medical Officer at Children's Medical Center of Dallas. From 2004 until 2008, was Deputy Director, then Director, of the Defense Sciences Office of the Defense Advanced Research Projects Agency, directing a research portfolio of approximately $450 million annually that spanned from fundamental physics to biodefense.
 **Deputy Director** **Dr. Gerald Parker, Jr.** Vice President, Public Health Preparedness and Response, Texas A&M Health Science Center	Dr. Gerald Parker, Jr. leads national public health preparedness initiatives for the Texas A&M Health Science Center, serving as principal investigator of the Center for Innovation and Advanced Development and Manufacturing. Previously, Dr. Parker served as a deputy assistant secretary of defense responsible for developing national strategies to protect United States service members from emerging infectious disease, biological and chemical threats, and oversaw the $1.4 billion Chemical and Biological Defense Program. Dr. Parker has held senior executive roles at the U.S. Department of Homeland Security, the Department of Health and Human Services and the Department of Defense. He is also a retired colonel, having served more than 26 years of active duty in the Army Medical Department, including a tour as commanding officer of the U.S. Army Medical Research Institute of Infectious Diseases. In 2009, he received the Distinguished Executive Presidential Rank Award for leading implementation of the Pandemic and All-Hazards Preparedness Act for the Department of Health and Human Services. Dr. Parker graduated from Texas A&M University in 1976 with a bachelor's degree and in 1977 with a doctorate of veterinary medicine. He earned his Ph.D. at Baylor College of Medicine in 1990 and a master's degree from the Industrial College of the Armed forces in 2001.

Appendix D

Biographies of Task Force Members (continued)

Dr. Tammy Beckham
Director, Veterinary Medical Diagnostic Laboratory and the Institute for Infectious Animal Diseases
Texas A&M University

Dr. Tammy Beckham leads and executes a multi-million dollar research portfolio aimed to defend the nation for high consequence foreign animal, emerging and zoonotic diseases. She became director of the Institute in 2010 after serving as its interim director. Previously, she served as director of Texas A&M Veterinary Medical Diagnostic Laboratory (TVMDL), overseeing TVMDL's full-service laboratories, in College Station and Amarillo, and poultry laboratories, in Center and Gonzales.

Dr. Beckham was director of the Foreign Animal Disease Diagnostic Laboratory, a part of the U.S. Department of Agriculture's Plum Island Animal Disease Center. She managed the diagnosis of animal diseases and diagnostic test development for a nationwide animal health diagnostic system, coordinating efforts with the Department of Homeland Security, the National Animal Health Laboratory Network and other entities.

Dr. Beckham is a magna cum laude graduate of Auburn University, where she also earned her doctor of veterinary medicine degree and doctorate in biomedical science. She was a captain in the U.S. Army, serving at the Medical Research Institute for Infectious Diseases, where she helped develop techniques for detecting deadly pathogens such as Ebola and Marburg viruses.

She is an adjunct professor in the Department of Veterinary Pathobiology at Texas A&M's College of Veterinary Medicine and Biomedical Sciences.

Dr. Peter Hotez
Founding Dean, National School of Tropical Medicine, Baylor College of Medicine
Professor, Departments of Pediatrics and Molecular Virology & Microbiology
President, Sabin Vaccine Institute

Dr. Peter Hotez is a scientist, pediatrician, and leading advocate and expert in the fields of global health, vaccinology, and neglected tropical disease control.
He is founding dean of the Baylor College of Medicine National School of Tropical Medicine, chief of the new Section of Tropical Medicine in the BCM Department of Pediatrics and holds the Texas Children's Hospital Endowed Chair in Tropical Pediatrics. He is also the founding Editor-In-Chief of the Public Library of Science (PLoS) Neglected Tropical Diseases.

His work among people with neglected tropical diseases helped to lead to the establishment of the National School of Tropical Medicine (NSTM) at Baylor College of Medicine (BCM). It is the first school in the United States solely committed to addressing the world's most pressing tropical disease issues. As president of the Sabin Vaccine Institute and director of its product development partnership, Dr. Hotez leads an international team of scientists working to develop vaccines to combat infectious and neglected diseases that are among the most common infections of the world's poorest people.

Dr. Hotez received a B.A. in molecular biophysics and biochemistry magna cum laude from Yale University in 1980, Ph.D. from Rockefeller University in 1986, and Doctorate in Medicine from Weill Cornell Medical College in 1987.

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Biographies of Task Force Members (continued)

 **Mr. Richard Hyde** Executive Director Texas Commission on Environmental Quality	Richard A. Hyde, P.E., became executive director for the TCEQ -- the environmental agency for the state of Texas -- on Jan. 15, 2014. In that role, he directs the operations of 17 statewide offices, implements commission policies, makes recommendations to the commissioners about contested permitting and enforcement matters, and approves uncontested permit applications and registrations. Prior to this current service, Hyde served as the deputy executive director since May 2012, and before that, he was the deputy director of the Office of Compliance and Enforcement. Hyde previously served as deputy director of the Office of Permitting and Registration and was director of the Air Permits Division for five years. He joined the TCEQ in 1992 and worked as a permit engineer, team leader, and manager in the Air Permits Division prior to becoming director. Hyde also has experience in the private sector as an environmental consultant. Hyde was born in Houston, Texas, and grew up in the New Braunfels area. He is a licensed professional engineer and earned a Bachelor of Science in Agricultural Engineering from Texas A&M University and Bachelor of Science and Master of Education degrees from Texas State University. In 2013, he was recognized by Texas A&M and inducted into the Biological and Agricultural Engineering Department's Academy of Distinguished Graduates.
 **Mr. Timothy Irvine** Executive Director Texas Department of Housing and Community Affairs Institute	As Executive Director of the Texas Department of Housing and Community Affairs (DHCA), Tim Irvine oversees the delivery of affordable housing and other assistance to Texans. DHCA is Texas' lead agency responsible for affordable housing, community and energy assistance programs, and colonia activities. It annually administers funds in excess of $400 million, the majority of which is derived from mortgage revenue bond financing and refinancing, federal grants, and federal tax credits. Previously, he served as the agency's deputy executive director, and earlier in his career served as executive director in its Manufactured Housing Division. He is the former administrator of the Texas Real Estate Commission and commissioner of the Texas Appraiser Licensing and Certification Board A licensed attorney, Mr. Irvine has more than 30 years of experience in the housing and real estate industries. He is a graduate of Claremont McKenna College with a B.A. degree in English, and also holds degrees from Claremont Graduate University and Willamette University.

Appendix D

Biographies of Task Force Members (continued)

Dr. Kyle Janek
Executive Commissioner
Texas Health and Human Services Commission

Dr. Kyle Janek was appointed executive commissioner of the Texas Health and Human Services Commission in 2012. In that role, he oversees more than 56,000 employees and a combined budget of $73.9 billion and provides leadership and strategic direction for the state's five health and human services agencies.

He served in the House of Representatives for eight years, where he sat on the Appropriations Committee, the Public Health Committee and the Health Services committee, and as vice chair of the Civil Practices Committee.

After serving in the House, Dr. Janek was sworn in to the Texas Senate in 2002. In his more than five years in the Senate, Dr. Janek served on the Senate Finance Committee and subcommittees on Higher Education, Capital Funding for Higher Education and Health, and Human Services. He also served as vice chair of the Senate Education Committee and on the Subcommittee on Higher Education, and he was chair of the Subcommittee on Emerging Technologies and Economic Development, the Committee on Eminent Domain, and the Committee on the Medical Peer Review Process.

Dr. Janek received a bachelor's degree and graduated magna cum laude from Texas A&M University in 1980. He earned his medical degree from the University of Texas Medical Branch (UTMB) in Galveston. A board-certified anesthesiologist, Dr. Janek has been in private practice since 1986. He has also served as a clinical assistant professor at UTMB.

Mr. Nim Kidd
Division Chief
Texas Division of Emergency Management

Nim Kidd is chief of the Texas Division of Emergency Management. From 2004 until his appointment in 2010, Mr. Kidd served as director of San Antonio's Homeland Security department, where he managed the Homeland Security Grant Program and chaired the Urban Area Security Initiative Working Group. In that role he managed preparedness, response and recovery efforts for all local disasters impacting the community.

Since 1993, he had served in a number of ranks with the San Antonio Fire Department, including charges as firefighter, fire apparatus operator, lieutenant, captain and district fire chief. Mr. Kidd has led the SAFD Technical Rescue Team and the Hazardous Material Response Team. Since 1997, he had served as a member of Texas Task Force 1 Urban Search and Rescue Team, responding to state and national disasters including the World Trade Center attack in September 2001.

He holds the Certified Emergency Manager designation from the International Association of Emergency Managers and has served as a member of the Board of Directors of the Emergency Management Association of Texas. He has also served on the Governor's Emergency Medical Services and Trauma Advisory Council-Disaster Committee, and the Governor's Texas Preparedness Advisory Council for the Texas Division of Emergency Management.

Appendix D

Biographies of Task Force Members (continued)

 **Dr. Thomas Ksiazek** Virologist and expert in epidemiology/ecology and laboratory diagnosis of hemorrhagic fevers and arthropod-borne viral diseases, University of Texas Medical Branch at Galveston	Dr. Thomas Ksiazek is a professor in the Department of Microbiology and Immunology of the University of Texas Medical Branch (UTMB), member of the Institute for Human Infections and Immunity, and director of the High Containment Laboratory Operations at the Galveston National Laboratory. Previously, he served as Chief, Special Pathogens Branch, Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases, Centers for Disease Control. He had been at the CDC since 1991 after retiring from the U.S. Army as Lieutenant Colonel with 20 years of active duty service. In the service, Dr. Ksiazek worked as a veterinary microbiologist at virology research at stations around the world, and for the Disease Assessment Division as Chief, Rapid Diagnosis Section, Department of Epidemiology. In September 2014, he visited Sierra Leone where he joined other experts focused on battling the Ebola virus by providing clinical research, vaccine development, and outbreak response. Recently, Dr. Ksiazek received a $26 million collaborative Center of Excellence for Translational Research grant to continue his research on new vaccines and a broad spectrum of treatments for highly lethal viruses like Ebola. Dr. Ksiazek holds a doctorate in veterinary medicine from Kansas State University, a master's degree in virology from the University of Wisconsin, and a Ph.D. in epidemiology and virology from the University of California, Berkley.
 **Dr. David Lakey** Commissioner Texas Department of State Health Services	Dr. David Lakey has served as Commissioner of the Texas Department of State Health Services since 2007. He leads one of the state's largest agencies with a staff of 11,500 and an annual budget of $3.2 billion, overseeing: disease prevention and bioterrorism preparedness, family and community health services, environmental and consumer safety, regulatory programs and mental health and substance abuse prevention and treatment programs. Previously, Dr. Lakey served as an associate professor of medicine, chief of the Division of Clinical Infectious Disease and medical director of the Center for Pulmonary and Infectious Disease Control at the University of Texas Health Center in Tyler. He had been a faculty member there since 1998. At the UT Center for Biosecurity and Public Health Preparedness, Dr. Lakey served as associate director for infectious disease and biosecurity. He also chaired a bioterrorism preparedness committee for 34 hospitals in East Texas and led the development of the Public Health Laboratory of East Texas. He earned a B.S. degree in chemistry with high honors from Rose-Hulman Institute of Technology, and a medical degree with honors from Indiana University School of Medicine. Dr. Lakey was a resident in internal medicine and pediatric medicine and completed a fellowship in adult and pediatric infectious disease at Vanderbilt University Medical Center.

Appendix D

Biographies of Task Force Members (continued)

Dr. James LeDuc
Director
Galveston National Laboratory;
Professor, Microbiology and Immunology,
University of Texas Medical Branch, Galveston

Dr. James LeDuc directs the Galveston National Laboratory (GNL), where basic and applied research is conducted on viruses, bacteria and rickettsia under various levels of biocontainment. It is the largest active biocontainment facility on a U.S. academic campus. He has over four decades experience in the fields of biodefense and public health, with leadership positions in academia and the federal government.

Previously, Dr. LeDuc was the director, Division of Viral and Rickettsial Diseases, at the Centers for Disease Control and Prevention. Prior to becoming director, he served as the associate director for global health (1996-2000) in the Office of the Director, National Center for Infectious Diseases at CDC, and was a medical officer in charge of arboviruses and viral hemorrhagic fevers at the World Health Organization in Geneva, Switzerland (1996-1996).

During a 23-year career as a U.S. Army officer in the medical research and development command, he had assignments in Brazil, Panama and various locations in the U.S., including the Walter Reed Army Medical Center and the U.S. Army Medical Research Institute of Infectious Diseases.

Dr. LeDuc holds a B.S. degree in zoology from California State University, Long Beach; and a M.S.P.H. degree, infectious & tropical diseases, and a Ph.D. in epidemiology, both from the University of California, Los Angeles. epidemiology and virology from the University of California, Berkley.

Dr. Scott Lillibridge
Professor of Epidemiology and Assistant Dean
School of Public Health
Texas A&M Health Science Center

Dr. Scott Lillibridge has more than 30 years of experience in medical and public health preparedness in domestic and international settings. He was the founding director of the CDC Bioterrorism Preparedness and Response Program in 1999 and has worked throughout the world in various emergency response roles related to biodefense and biotechnology.

While in the U.S. Public Health Service, he was assigned to the CDC Epidemic Intelligence Service and as special assistant to the secretary of the Department of Health and Human Services during the 2001 anthrax attacks. He was special assistant for National Security and Emergency Management, and a consultant to China's Ministry of Health during the 2003 SARS outbreak.

Dr. Lillibridge was appointed to the White House Emergency Services, Law Enforcement, and Public Health and Hospitals Senior Advisory Committee for the Office of Homeland Security. He previously served as director of the Center for Biosecurity and Public Health Preparedness at the University of Texas School of Public Health in Houston. Currently, he is also the Deputy Principal Investigator for the Texas A&M Center for Innovation in Advanced Development and Manufacturing.

Dr. Lillibridge has a B.S. degree in environmental health from East Tennessee State University, and a M.D. degree from the University of Texas, School of Public Health.

Appendix D

Biographies of Task Force Members (continued)

 **Colonel Steve McCraw** Executive Director, Texas Department of Public Safety	Colonel Steve McCraw has served as executive director of the Texas Department of Public Safety since 2009. He also serves as the Governor's Homeland Security Advisor. Previously, he had served as director of Texas Homeland Security in the Governor's Office since 2004. A native of El Paso, Col. McCraw started his career with the Texas Highway Patrol in 1977. He then promoted to Narcotics investigator in Amarillo from 1980 to 1983, before beginning his 21-year career with the FBI. With the FBI, Col. McCraw was stationed in Dallas, Pittsburgh, Los Angeles, Tucson, San Antonio and Washington, D.C. His assignments included Unit Chief of an Organized Crime Unit, Director of a Foreign Terrorism Tracking Task Force after 9/11, Special Agent in Charge of the San Antonio Field Division and Assistant Director of the Office of Intelligence and the Inspection Division in Washington, D.C. He retired from the FBI in 2004. Col. McCraw earned Bachelor of Science and Master of Arts degrees from West Texas State University.
 **Major General** **John Nichols** Adjutant General Texas National Guard	Major General John Nichols is responsible to the Texas Governor for providing ready trained forces of the Texas Army Guard, the Texas Air Guard, the Texas State Guard, and the Adjutant General's Department, better known as the Texas Military Forces, in support of state operations. He is also responsible to the President of the United States for providing ready trained forces of the Texas Army Guard and the Texas Air Guard in support of federal missions. Major Gen. Nichols spent 13 years as a U.S. Air Force command pilot with more than 3,000 hours in fighter aircraft and also as an instructor. He joined the Wisconsin Air National Guard in 1992. At Madison, he was the Chief of Wing Weapons, the 176 FS Operations officer and the 115 FW Operations Group Commander. He joined the Texas Air National Guard in April of 2000. He was the Vice Commander of the 149th Fighter Wing from April 2000 to March 2002. He was the Commander of the 149th Fighter Wing from March 2002 to March 2009. He was appointed the Adjutant General of the Texas National Guard on February 2011. Major Gen. Nichols is a 1979 graduate of the U.S. Air Force Academy with a degree in aeronautical engineering.

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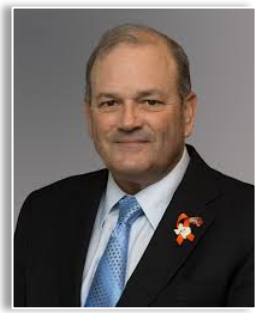
Biographies of Task Force Members (continued)

 **Dr. Victoria Sutton** Associate Dean for Research and Faculty Development; Director, Center for Biodefense, Law and Public Policy Texas Tech University School of Law	Dr. Victoria Sutton is an expert in law and biodefense, biosecurity and bioterrorism. She established the Law and Science Certificate Program at Texas Tech, and directs the JD/MS Program in Environmental Toxicology, Biotechnology and Plant and Soil Sciences. Before joining the faculty at Texas Tech, Dr. Sutton served in the Pres. George H. W. Bush administration as assistant director in the White House Science Office and in the U.S. Environmental Protection Agency. In the White House, she was responsible for coordinating science and technology research programs at the cabinet level. After her White House service, Dr. Sutton was executive director of the Ronald Reagan Institute for Emergency Medicine , leading the development of research initiatives. She served as a political appointee for Pres. George W. Bush, as the Chief Counsel for the Research and Innovative Technology Administration, U.S. Department of Transportation in Washington, D.C. from September 2005 until January 2007. She was a Visiting Lecturer at Yale University in fall 2004. Dr. Sutton holds a B.S. degree in zoology and a B.S. degree in animal science, cum laude, from North Carolina State University; and M.P.A. degree from Old Dominion University; a Ph.D. in environmental sciences from the University of Texas at Dallas; and a J.D., magna cum laude, from American University, Washington College of Law.
 **Lt. General Joseph Weber** Executive Director Texas Department of Transportation	Lt. General Joseph Weber, U.S. Marine Corps (Ret.), serves as executive director, Texas Department of Transportation. Under the direction of the Texas Transportation Commission, he oversees the strategic direction and overall management of policies and operations. His mission is to provide and maintain a safe, reliable transportation system for the 26 million people who live in Texas, and to support transportation as an economic development tool. Previously, Lt. Gen. Weber served as vice president for Student Affairs at Texas A&M University, where he was responsible for the oversight of more than 900 student organizations and activities and all co-curricular student services and support associated with student development and success. In his 36 years in the United States Marine Corps, Lt. Col. Weber served in numerous command and leadership positions, including tours in Europe, South America, Southeast Asia and Iraq. He honed his management and leadership skills on and off the battlefield, where he trained, educated and prepared thousands of Marines, sailors, soldiers and airmen for combat. During those assignments, he also was responsible for the supervision of a variety of infrastructure projects which included road, port, aviation and rail systems to include their associated maintenance and upkeep. Lt. General Weber is a 1972 graduate of Texas A&M University and earned a master's degree from the LBJ School of Public Affairs, University of Texas.

Appendix D

Biographies of Task Force Members (continued)

Michael Williams
Commissioner
Texas Education Agency

In 2012, Michael Williams was appointed Texas commissioner of the Texas Education Agency, which oversees pre-kindergarten through high school education for more than five million students enrolled in both traditional public schools and charter schools.

After earning Bachelor's, Master's and law degrees from the University of Southern California, Mr. Williams served as assistant district attorney in Midland, Texas, and then as federal prosecutor at the U.S. Department of Justice, earning the Attorney General's Special Achievement Award.

President George H.W. Bush appointed him deputy assistant secretary for law enforcement at U.S. Department of the Treasury. In 1990, President Bush named him assistant secretary of education for civil rights at U.S. Department of Education. In 1998, Gov. George W. Bush appointed Mr. Williams to Railroad Commission of Texas; he was elected to terms in 2000, 2002 and 2008.

Gov. Perry selected him in 2005 to lead the state's long-term relief efforts following Hurricanes Katrina and Rita. He serves as the Governor's appointee to the Southern Regional Education Board, the OneStar National Service Commission, the Interstate Compact on Educational Opportunity for Military Children, and the Education Commission of the States.

Mr. Williams served as adjunct professor at Texas Southern University, School of Public Affairs; University of Texas, Permian Basin; and Texas Wesleyan School of Law.